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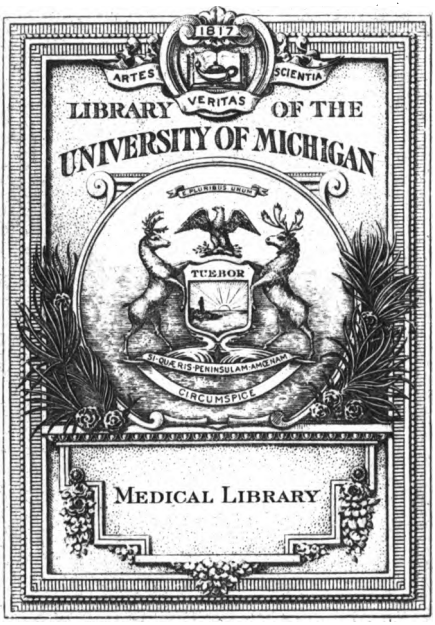

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TRANSACTIONS

OF THE

MEDICAL ASSOCIATION

OF THE

STATE OF ALABAMA.

ANNUAL SESSION OF 1871, HELD IN MOBILE, MARCH, 21ST, 22D, 23D.

MOBILE:
PRINTED AT THE DAILY REGISTER OFFICE.
1871.

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PREFACE.

In introducing to the Members of the Medical Association of the State of Alabama, the volume of Transactions for the current year, the Publishing Committee desire to offer a few words of explanation.

It will doubtless seem to the members that the volume has been very slow in making its appearance; but when it is remembered that it was necessary to wait until the first of June in order to give the President time to make his appointments, and when the size of the volume is considered, it will be seen that the work has been pushed as rapidly as could be expected.

Of all the questions which came before the Association at its last session, that which excited most attention and interest was the issue made with reference to the abrogation of fees for lectures in the Medical College of Alabama. The Committee have therefore belived that it was incumbent on them to give the debates on this question as fully as possible, and have accordingly procured from the several speakers summaries of the remarks made by them on the occasion. The strict accuracy of these summaries will be recognized by all who were present.

The Committee have published every thing which was referred to them except a paper by Dr. C. H. Mastin, of Mobile, on the subject of Internal Urethrotomy. This paper, after mature consideration, they have determined to refer to the

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Association at the next annual session. They do this on the ground that Dr. Mastin is not a member of the Association; and that it seems of doubtful propriety to tax the Association to publish the productions of persons who contribute nothing to its support, when it is with difficulty that the funds of the Association can be so managed as to pay for the papers prepared by its own members. At any rate, whether this ground is tenable or not, they have felt that the matter was of sufficient importance to be brought expressly before the Association for decision.

All of which is respectfully submitted,

JEROME COCHRAN, M. D.
GEO. A. KETCHUM, M. D.
J. T. GILMORE, M. D.,
Publishing Committee.

CORRIGENDA.

This volume of the Transactions contains several minor errors which every one can correct for himself. The two following need more special attention:

Page 70, 16th line from bottom, for "On the Diseases of Selma and vicinity, by C. J. Clark, M. D," read "On the Surgery of Selma and vicinity, by A. S. Garnett, M. D."

Page 81—bottom—the Committee on National Medical College should read as follows: Drs. J. S. Weatherly, E. D. McDaniel, and J. M. Williams.

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MINUTES OF THE PROCEEDINGS.

FIRST DAY—*March 21st.*

The Association assembled in Franklin Hall, and was called to order by the President, Dr. F. A. Ross, at eleven o'clock.

The following Delegates and Permanent Members were in attendance:

DELEGATES.

Autauga County Medical Society—Thomas G. Howard, M. D. Charles Alva Edwards, M. D.

Barbour County Medical Association—William Preston Copeland, M. D.

Butler County Medical Society—James Berney, M. D.

Bibb County Medical Society—James W. Crawford, M. D.

Clark County Medical Society—William Stump Forwood, M. D., Bryan Borroughs, M. D.

Connecuh County Medical Society—John B. McMillan, M. D., Adam Alexander McKittrick, M. D., Solomon Sage Forbes, M. D.

Dallas County,—Selma Medical Society—L. E. Locke, M. D.

Dallas County,—Orrville Medical Society—William Alexander Cochran, M. D,

Elmore County Medical Society—James C. Harris, M. D., Lorenzo Sidney Green, M. D.

Greene County,—Medical Society of West Greene—John Samuel Merriwether, M. D., P. B. Minor, M. D.

Hale County,—Greensboro Medical Society—Thomas C. Osborn, M. D.

Jefferson County Medical Society—Gilbert T. Deason, M. D., Richard Nathaniel Hawkins, M. D., M. H. Jordan, M. D.

Lee County Medical Society—John Hodges Drake, M. D.

Macon County Medical Society—Egbert Beale Johnson, M. D.

Mobile Medical Society—James Fountain Heustis, M. D., Edmond

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Henry Fournier, M. D., Goronwy Owen, M. D., Caleb Toxey, M. D., Gratz A. Moses, M. D.

Montgomery Medical and Surgical Society—J. A. Freemon, M. D., Dunklin Pierce, M. D., James Douglas, M. D., Job Sobiesky Weatherly, M. D., Thomas A. Means, M. D., Walter Clark Jackson, M. D., Joseph Milward Williams, M. D.

Perry County,—Canebrake Medical Society—William Archibald Bradfield, M. D.

Pickens County Medical Society—A. W. Agnew, M. D.

Sumter County Medical Society—James M. Godfrey, M. D., John H. Giles, M. D., R. D. Webb, M. D.

Wilcox County Medical Society—Edward Davies McDaniel, M. D., J. Paul Jones, M. D., John S. Lynch, M. D., J. D. Caldwell, M. D.

North Alabama Medical Society—William Desprez, M. R. C. S. London, Joseph P. Pride, M. D., George E. Kumpé, M. D.

Medical College of Alabama—Edmund Pendleton Gaines, M. D.

Providence Infirmary,—Mobile—John Taylor Gilmore, M. D.

Montgomery County Hospital—Samuel Dibble Seelye.

PERMANENT MEMBERS.

Frank Armstrong Ross, M. D. of Mobile.
William Henry Anderson, M. D. of Mobile.
George A. Ketchum, M. D. of Mobile.
Jerome Cochran, M. D. of Mobile.
John Foote Johnston, M. D. of Montgomery.
Richard Frazer Michel, M. D. of Montgomery.

Present by Invitation, with seats on the Floor:

E. H. C. Baily, M. D. of Marengo.
W. H. Saunders, M. D. of Green.
———Holmes, M. D. of Baldwin.

N. B. The foregoing list contains all the names on the Register; but Drs. Lynch, Jones, and Caldwell, of Wilcox, did not register until the 23d; and Drs. Johnson, of Macon, Williams, of Montgomery, and Crawford, of Bibb, until the 22d. Dr. Minor, of Green, was not present at all; but as he had come down by mistake on the 1st to attend the meeting, and sent an order for the annual assessment, his name was ordered to be placed on the Roll.

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The Session was opened with prayer by the Rev. A. S. Andrews, of the St. Francis Street Methodist Church.

The Address for the Committee of Arrangements, welcoming the Association to Mobile, was made by Dr. E. P. Gaines, President of the Mobile Medical Society.

DR. GAINES' ADDRESS.

Gentlemen of the Medical Association of the State of Alabama:

As presiding officer of the Mobile Medical Society, it becomes my duty to welcome you to our city. We are pleased to see you. This large assemblage of the representative men of the profession, from all parts of the State, shows the great interest you take in the profession. These meetings have more effect—do more good—than the outside world have any idea of, though it all redounds to their benefit. We come together for what purpose? to counsel concerning the state of Medicine as it now exists in our own State; to make laws and regulations to make our body more efficient; to make suggestions to the profession at large; to describe such new diseases or new forms of disease as may appear in our State, and by so doing get a correct history of the same, their nature, their causes, and the treatment that has proved the most successful. A reference to one disease will prove the correctness of all I have just said: A disease appeared in our State with symptoms different from what have been seen before, the mortality of which was so great as to spread alarm throughout the country; as a matter of course it received the earnest attention of the profession; the disease was watched closely, studied carefully, effects of remedies noticed, able papers written thereon, and when you met here in 1869 these papers were read, the subject discussed, and a clear appreciation of its nature and cause arrived at, for in "the multitude of counsellors there is safety." When I saw my first case of so-called Hæmorrhagic Malarial Fever last summer, I referred with both pleasure and profit to your transactions of 1869, where I read the able paper on the subject written by Dr. Michel, of Montgomery; and the history and diagnostic mention of the disease were so clearly delineated that I had no trouble in discriminating between this and yellow fever, although a raging epidemic of the latter disease was prevailing at the time. The knowledge that we meet once a year will make us all watch our individual cases more closely, study them out and keep records of the same, so as to make them worthy of a place in the published transactions. All this has a tendency to elevate the profession. No man, however bright his intellect, can keep up an interest in his profession unless he has something to look forward to; he must not only have thoughts, but he must use them, for

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"Thoughts shut up want air,
And spoil like boles unopened to the sun."

Moreover, Associations can effect more than individual efforts.

Gentlemen, let us always remember in our meetings that we are a body of scientific men, met together for the same purpose, the good and the advancement of our profession, and therefore let our discussions always be conducted in a calm, temperate and dignified manner.

Once more gentlemen, in the name of the Physicians and the citizens of Mobile, we offer you a hearty welcome.

The Annual Address of the President was then delivered by Dr. F. A Ross. On motion of Dr. Weatherly, it was referred to a committee of three, to be reported on during the present session.

Committee—Drs. T. C. Osborn, L. E. Locke and W. A. Cochran.

The Reports of Officers being in order, the Report of the Secretary, Dr. Jerome Cochran, was read, and approved.

REPORT OF THE SECRETARY.

As Secretary of the Medical Association of the State of Alabama, I have the honor to report with reference to the work done in my office, since the last annual session, as follows:

After the adjournment of the Association in Montgomery, on the 17th of March of last year, I prepared the Minutes of the Proceedings of the Session for publication. I found it necessary also to put into proper shape several of the papers which were read by various reporters. This preliminary work having been done in my capacity as Chairman of the Publishing Committee, I superintended the passing of the Annual Volume of Transactions through the press—a labor of far greater magnitude than most members of the Association can have any conception of. The Publishing Committee were under very great embarrassment for the want of funds, and it was feared at one time that we would not be able to get the printing done. In our extremity we caused estimates to be made by two publishing houses in New York; and were surprised to find that it would cost more to have it done in that city than in Mobile. After many disappointments, we were finally able to conclude an arrangement with Messrs. Putnam & Co., with the understanding that they should be allowed to get as many advertisements as possible to help pay the cost of printing. The entire cost of the two hundred copies amounted to $545 00, of which, $215 00 were paid from advertisements and some other sources not necessary to be mentioned, and $330 00 were paid in money from the treasury of the Association. In other words the Association paid three-fifths of the expense and two-fifths were raised from other sources. Owing to the difficulties of which I have spoken, the Transactions were not ready

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for distribution until the month of September, a delay which was greatly regretted by the Committee, but which, under the circumstances, was unavoidable. It is to be hoped for the honor of the Association that members will pay their dues promptly, and that no such troubles will occur in the future. As to the character of the volume after we got it published, I am glad to be able to say, that it compares very favorably indeed with the Transactions published by other State Associations. It is about ten times as large as the Transactions of any other Southern Association which I have seen; and does not fall so very far behind the Transactions of the Medical Association of the great State of New York, which are published at the expense of the State.

During the past twelve months I have employed a considerable amount of time and labor in endeavoring to promote the organization of County Medical Societies. To facilitate the accomplishment of this object, I prepared, about the 1st of August, under instructions from Dr. Ross, the President of the Association, a Circular Address to the Profession of the State urging the importance of thorough organization all over the State. Of this Circular a thousand copies were printed, and it was widely distributed, and, as I have good reason to believe, with good effect. I include a copy with this report. But in my effort to organize the profession of the State I have not satisfied myself with the distribution of Circulars. I find that I have written in behalf of the Association nearly three hundred letters, many of them very long ones. I have, also, received about the same number in return; and these have been to me a curious and melancholy study. They reveal an amount of professional demoralization and lethargy which is absolutely appalling, and furnish to those of us who are actively engaged in the great work of organization and reformation some measure of the large amount of patient and persevering labor which will be necessary to accomplish what we have undertaken. It is proper for me to state further that seeing how much was to be done, and that the burden was too great for me to bear alone, I have appealed for help to many of the prominent members of the profession, and have received from them much valuable assistance. I have to express my obligations, and those of the Association, for services of this kind, to the following gentlemen, namely: Drs. E. Mason, of Wetumpka; E. B. Johnson, of Tuskegee; A. J. McAlpine, of Talladega; R. D. Webb, of Livingston; J. E. Kumpé, of Leighton; M. H. Jordan, of Elyton; E. D. McDaniel, of Camden; besides many others who have contributed in larger or smaller measure to help on the good work.

Under all the disadvantages of the situation I am still able to report a reasonable amount of substantial progress. There are now twenty-six organized societies in the State, with an aggregate mem-

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bership of over three hundred and fifty members. When we remember the small beginnings which we made at Selma just three years ago, this exhibit certainly furnishes us with reasonable grounds for looking hopefully into the future. Our progress must necessarily be slow, but if we hold out faithfully, and labor earnestly in season and out of season, with tongue and pen, and with the weapons of wise precept and good example, for the advancement of our profession to higher efficiency, higher usefulness, and higher dignity, the ultimate result cannot be doubtful.

The vouchers for the money which has passed through my hands are in the hands of the Treasurer.

All of which is respectfully submitted.

JEROME COCHRAN,
Secretary M. A. S. A.

MOBILE, March 21st, 1871.

[Circular referred to in the Secretary's Report.]

ORGANIZATION OF THE MEDICAL PROFESSION.

(Correspondence.)

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.
OFFICE OF THE PRESIDENT,
MOBILE, AUGUST 1st, 1870.

Dr. JEROME COCHRAN:

Dear Sir—In our conversation as to devising some method by which our profession in this State can be roused to a proper appreciation of our position and necessities and the vital importance of a general and combined effort being made to accomplish the great ends which we should all have in view, I have been so favorably impressed with the plans which you have originated and expressed to me, that I desire to entreat you to put them in some form, by which we can reach our brethren throughout the State. By doing so, you will confer a favor upon the profession in general, and, in particular, upon your friend,

F. A. ROSS.

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA,
OFFICE OF THE SECRETARY,
MOBILE, August 2d, 1870.

Dr. F. A. ROSS:

In reply to your note of yesterday, asking me to put the views, as to the organization of the medical profession, which we have discussed together on several occasions, into such shape as will make them available in an effort to rouse the physicians of the State to

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energetic and concerted action against the evils from which all of them suffer, I have to say, that in so good a cause, I am ready to work to the utmost of my ability. It seems to me that the most feasible way of accomplishing your wishes is to explain the plans and arguments to which you refer in a circular address, which might be printed for general distribution.

Such address I have accordingly prepared, and it is herewith respectfully submitted for your consideration.

I have the honor to be
your obedient servant,
JEROME COCHRAN.

CIRCULAR ADDRESS.

To the Medical Profession of the State of Alabama:

The Medical Association of the State of Alabama, having discontinued its sessions during the war, was reorganized in the City of Selma, on the 3d and 4th days of March, 1868, by a few of the old members, and by Delegates from four County Societies, those viz: of Greensborough, Mobile, Montgomery and Selma, the only Medical Societies at that time in the State, except the North Alabama Medical Society, which was not represented.

The next session was held in Mobile, March 2d, 3d and 4th, 1869, and was attended by delegates from eight County Societies, viz: in addition to the original four represented at Selma, the Societies of Autauga, Tuskaloosa, Wilcox, and North Alabama, this last representing several Counties. At this meeting, many important propositions in relation to the general policy of the profession were discussed, and several important reports on the Medicine and Surgery of the different counties were read and ordered to be published. This gave rise to a volume of Transactions of 150 octavo pages, which was printed in excellent style, and compares favorably with the Transactions of other State Associations.

Another session has been held during the present year, at Montgomery, on the 15th, 16th and 17th of March. This session was attended by delegates from fifteen County Societies, and by twenty permanent members, making an assemblage of about sixty of the leading physicians of the State. The proceedings of this session will be issued in a volume of Transactions of about two hundred and twenty pages, which will certainly be the most important medical publication ever made in the State of Alabama. It will be ready for distribution about the last of August.

The session for 1871, will be held in Mobile, on the second Tuesday after the first Monday in March. It promises to be more brilliantly successful than any which has heretofore occurred in the history of the Association, both in the numbers of professional men in attendance, and in the number and importance of the ques-

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tions to be brought before it. The profession is now organized in twenty Counties; and it is not to be doubted that more than twice this number will be represented at the Mobile meeting. Reports are expected from fifty-seven Standing Committees, on various subjects connected with the theory and practice of Medicine and Surgery; and several very important prepositions with reference to the organization and general policy of the Association, to the organization and policy of the County Societies, and to the *vexata questio* of medical education and the qualifications of physicians, will be elaborately discussed; and it is earnestly hoped that such wise and prudent conclusions will be reached, as will contribute to the honor, dignity, and usefulness of the profession in the State, through all coming time.

In reference to these questions of medical organization and professional qualifications, it is, perhaps, better to be still more definite. The weak point in the present organization of the Association, is the provision as to permanent members. None can be permanent members except those who have served as delegates; and these keep up their membership as long as they choose to pay the annual assessment. But no privileges are attached to the position, and any member may allow his membership to lapse at any time. without blame, simply by discontinuing the annual payment. Now that some change shall be affected here, is certainly a consummation most devoutly to be wished. We want permanent members to be truly permanent—to be organized not as volunteers, or irregular militia, or erratic guerrillas, changeful in character and purpose as the inconstant moon in her orbit. It is not this loose sort of organization that is needed. But we want a body of regular soldiers—veterans trained to efficiency by careful discipline and long service, and the vicisitudes of frequent campaigns—a Spartan band, a Macedonian Phalanx, a Roman Legion, an Old Guard, which can be moved as one man; which can be trusted in all emergencies with blindfold confidence, and in which each man knows his neighbor, and knows that in the hour of battle and of danger his neighbor will do his whole duty bravely and well. This is what we want in our permanent membership; a body ready to do valiantly and to suffer unselfishly for the good cause—for the advancement of Medicine, and of the Medical Profession. And this is what we must have. To this end, a proposition will be introduced at the next session, to organize the permanent membership on the plan following, to-wit:

Permanent members shall be restricted in number to one hundred.

New members shall be elected by the suffrages of those who are already permanent members, from nominations made by the County Societies.

Permanent members after election shall formally pledge themselves to accept and to perform faithfully all the duties attached to the position, viz:

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They shall pay the annual tax of ten dollars.

They shall attend at least one annual session of the Association every three years.

They shall make reports on any subjects referred to them by the President of the Association.

Permanent members being thus under obligation to do and to suffer for the good of the Association, shall have certain privileges, viz:

They shall fill all the regular offices of the Society.

They shall be appointed by the President on all regular committees.

They shall vote in all cases except in the election of officers.

They shall not serve as delegates under any circumstances whatever.

In this way we make the permanent members a kind of senate of prudent and able men who will have the will, and the wisdom, and the power to lead the Association along a career of prudent and wise policy, to the gradual accomplishment of its great ends.

This reorganization of the permanent members will render necessary the reorganization of the delegates, as follows:

Every County in the State, properly organized, shall be entitled to two delegates to represent in the State Association its views and wishes, and to watch over its interests and its honor.

They shall be appointed or elected by their several Societies, and shall serve for one year.

They shall nominate and elect the officers of the Association.

The nominating committee shall be composed of one delegate from each district represented in the State Senate; said delegate to be selected by the delegates in attendance from each senatorial district, and the nominations so made to be submitted to the vote of the House of Delegates for ratification or rejection, as to them may seem best.

Another proposition of grave importance which will be submitted at the next session, is a general system of censorship, by means of which the profession will be able to keep out of their ranks incompetent or unworthy applicants for professional brotherhood. The plan contemplates the appointment of a Board of Censors for every County, which, under the general control and direction of a Board of Censors of the State Association, shall have full jurisdiction and control of medical matters in its own County. Full details of this scheme will be found in the forthcoming volume of Transactions.

These are some of the questions that will come up for consideration at the next session of the Association. Whether they will be adopted or rejected, depends of course on the will of the Association. But they serve to show how important to the best interest of the profession the State Association is; how desirable it is that every

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County in the State shall be properly represented in it; and how important that the next session shall be generally attended.

The importance of a thorough organization of the profession cannot easily be over-estimated. There are three leading objects which the true physician has always in mind, any one of which is sufficient incentive and reward for all the labor and expense which the most thorough organization would require.

The first of these relates to the influence of proper organization over the profession itself, over the profession as a whole, and over every one of its individual members, in upholding a high standard of medical education, and of medical ethics, and in the promotion of professional brotherhood and high-toned chivalric emulation in the elevation of the professional character, and the advancement of professional interests.

The second relates to the influence of proper organization over public opinion and State legislation; involving such questions as the protection by provision of law of the medical profession in its legitimate privileges; and the protection of the general public against all the demoralizing and destructive agencies of medical ignorance and quackery.

The third relates to the influence of proper organization over the advancement of medical science and medical art, by a systematic elucidation of climatic, endemic, and epidemic influences at work in the different sections of the State, together with the development of our indigenous therapeutic resources, and such contributions to the knowledge of practical medicine as our physicians may be able to discover.

The difficulties that stand in the way of thorough organization have not been overlooked. Of those that relate to the organization of County Societies as being of less magnitude, and growing more out of local causes, nothing need be said here.

Of those that relate to the State Association, the principal are the necessary expenditure of time and money, and the neglect of private business involved in attending the annual sessions.

The State is large, and the means of intercommunication between the different sections not always the most expeditious or convenient. With the multiplication of railroads, and the improvements contemplated in our river navigation these difficulties will gradually become of less magnitude, but in the nature of things they must always continue to be of very embarrassing dimensions. But it is not to be expected that any great enterprise can be conducted without labor and expense and personal self-sacrifice. And it is not to be doubted that there is a sufficient amount of intelligence in the profession to appreciate the immense importance of the work in contemplation; and a sufficient amount of unselfish devotion and professional pride to secure its consummation. Surely it will be found practicable for two physicians in each County to attend

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the sessions of the Association once every year. There were not ten righteous men in Sodom and it was destroyed. But it is to be hoped that there are doctors enough in every County of the State to shoulder the necessary inconvenience and expense attendant on thorough organization so that the medical profession may be purified and exalted.

In view of the facts, and principles which have been glanced at in this Circular address, an earnest appeal is made to the profession in every County in the State, where no organization has yet been consummated, to organize a medical society at once, and to place it in affiliation with the State Association, so as to aid in the advancement of the good cause, which it is not to be doubted we all have at heart.

If these County Societies can meet no more than four times a year, it will be sufficient, if they are conducted by proper methods, and in a proper spirit to accomplish the main purposes of their organization. Any assistance of any sort, in the preparation of constitutions &c., which the officers of the State Association may have it in their power to give, will be given cheerfully. It is to be borne in mind, that none but regular graduates of reputable medical Colleges are to be admitted to membership. The details of organization are of course left to the choice of those most intimately concerned.

As we have no list of physicians in large portions of the State, many of our circulars will have to be mailed without any specific address. We hope, however, that every physician into whose hands one of them may fall will at least take the trouble to acknowledge its reception; and to give to the officers of the Association such information as to the condition of medical matters in his County as may seem to him to be of importance. The briefest note, even if it should contain only the name and address of some member of the profession, zealous of its honor, would show some interest on the part of the writer, and give some encouragement to those who are struggling for better organization, and a more prosperous professional future.

We are anxious, for obvious reasons, to get the names and addresses of all the physicians in the State, and every list, however short, which may be furnished towards this end will be gratefully acknowledged.

All communications may be addressed to Dr. Jerome Cochran, Secretary of the State Association.

Issued from Mobile, August, 1870, by order of the President of the Medical Association of the State of Alabama.

FRANK A. ROSS, M. D.,
President.

JEROME COCHRAN, M. D.,
Secretary.

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The Report of the Treasurer, Dr. W. C. Jackson, was read and approved:

ANNUAL REPORT OF THE TREASURER.

W. C. JACKSON, M. D., TREASURER,

In acc't with Medical Association of the State of Alabama.

1870.	Dr.		1870.	Cr.—Disbursements.	
March 15—	To Balance on hand	$97 02	March 8—	By Montg'mery Advertiser	$3 00
15—	Assm't Perm't M'mbrs	120 00	9—	State Journal	1 80
15—	Assm't Perm't Delg'tes	400 00	9—	Thompson & Powers	12 00
			15—	State Journal	6 00
			15—	Joel White	6 00
			16—	Montgomery Mail	4 75
			June 28—	Publishing Committee	275 00
			Sept. 17—	Publishing Committee	150 00
			27—	Dr. Jerome Cochran	10 00
				Dr. W. C. Jackson, P. O. Stamps	4 50
				Balance	143 97
		$617 02			$617 02

March 21st, 1871—To Balance on hand $143 97.

There is still due the Association the sum of thirty dollars, for annual assessments of delegates, to-wit: Drs. R. P. Means, $10 00; J. J. Hardaway, $10 00; W. H. Crawford, $10 00.

All of which, with the vouchers, is respectfully submitted.

W. C. JACKSON, M. D., Treasurer.

The Reports of Committees being next in order, Dr. J. S. Weatherly, Chairman of the Committee on Medical Education, asked to be allowed until 12 o'clock to-morrow to finish his report, which, on motion, was granted.

Dr. J. S. Weatherly, as Chairman of the Committee to confer with Dr. Bryce, Superintendent of the Alabama Insane Hospital, on the feasibility of establishing, in connection with that institution, a department for the reception and treatment of Inebriates and Opium Eaters, made a verbal report to the effect that after conferring with Dr. Bryce, they had reached the conclusion that the contemplated arrangement was liable to some practical objections; and on motion, the committee was discharged.

The committee to protest in the name of the Association to the State Legislature, against the removal of certain gentlemen, mem-

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bers of this Association, from the Board of Trustees of the Alabama Insane Hospital, reported verbally, through their Chairman, Dr. S. D. Seelye, that after consultation, it was thought better not to present the protest; and on motion the committee was discharged.

Motions, resolutions, and miscellaneous business being next in order, Dr. Jerome Cochran introduced a draft of a plan for a new constitution for the Association, as follows:

DRAFT OF NEW CONSTITUTION.

SECTION I.—Name and Seal.

ARTICLE 1. The name and style of this Association shall be "THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA."

ART. 2. The seal of this Association shall have, on the obverse, a winged globe on a shield with the motto *Nos etiam speravimus meliora;* and on the reverse the arms of the State of Alabama, with the inscription "*The Medical Association of the State of Alabama, 1872.*" It shall be attached to sealed documents of the Association by a ribbon of yellow silk.

SECTION II.—Objects.

ART. 3.—The objects of this Association shall be to organize the medical profession of the State in the most efficient manner possible. To encourage a high standard of medical education, and regulate the qualifications of practitioners of Medicine in the State. To promote professional brotherhood, and encourage a high standard of professional ethics. To combine the influence of all the medical men in the State, so as to secure by legislative enactments their own legitimate rights and privileges, and the protection of the people against all medical quackery and humbug. To encourage the study of the medical botany, medical topography, and medical climatology of the State. To secure careful and reliable accounts of all the endemic and epidemic diseases of the State. In a word, to watch over and protect, encourage and aggrandize all the interests of the medical profession of the State.

SECTION III.—Members.

ART. 4. There shall be four classes of members of the Association, namely:

1. Members.
2. Delegates.
3. Counsellors.
4. Correspondents.

ART. 5. All members of county societies which hold charters from the Association shall be members of the Association.

ART. 6. Members shall have the privilege of seats on the floor at

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the sessions of the Association; but they shall not vote, nor hold office.

ART. 7. Members shall pay annually to the Association the sum of one dollar, which shall be sent up to the annual sessions of the Association, in charge of the delegates of the respective societies.

SECTION IV.—Delegates.

ART. 8. Delegates shall be elected by the members of the county societies to represent them in the Association; and each county society shall be entitled to two delegates, whose term of service shall be for one year.

ART. 9. Delegates shall sign the Roll of Delegates for the current year; and shall pay the same annual dues as Counsellors.

ART. 10. Delegates shall be entitled to vote on all questions which come before the Association; but they shall not hold office.

ART. 11. Delegates may at the discretion of the President be appointed Reporters, and members of special committees.

SECTION V.—Counsellors.

ART. 12. The Counsellors shall be restricted in number to one hundred; and shall consist, first, of all the permanent members of the present organization who give their consent to accept the position and its responsibilities; and, secondly, of such other members as the Counsellors shall from time to time elect.

ART. 13. All vacancies which shall at any time exist in the House of Counsellors shall be filled, as to them may seem expedient, by the quorum of Counsellors present at any regular annual session of the Association; the vote for this purpose being by ballot, without nomination, and a majority of two-thirds of the votes necessary to election.

ART. 14. Counsellors shall hold their positions permanently, or until removed by death, resignation, impeachment or neglect of duty.

ART. 15. Counsellors shall sign the Roll of Counsellors; shall pay the annual dues; shall attend at least one annual session of the Association every three years; shall perform any constitutional duty assigned to them by the President; shall fill all the regular offices of the Association; shall have the privilege of voting on all questions coming before the Association; and shall not serve as delegates under any circumstances whatever.

ART. 16. Any Counsellor who shall fail to pay the annual dues as hereinafter provided; or any Counsellor who shall be absent from three successive sessions of the Association, shall forfeit membership, and his name shall be struck from the Roll of Counsellors.

ART. 17. The Counsellors present at any annual session, in number not less than seven, shall constitute a quorum.

ART. 18. The House of Counsellors shall hold annual sessions concurrently with the annual sessions of the Association, for the

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revision of the Roll of Counsellors; and for the election of members to fill vacancies.

Section VI.—Correspondents.

Art. 19. Correspondents of the Association shall be elected at the regular annual meetings, and upon the recommendation of the Board of Censors.

Art. 20. They shall consist of distinguished members of the medical profession living out of the State of Alabama; or of those who, having done the Association faithful service as Counsellors for not less than ten years, may have resigned that position.

Art. 21. They shall be elected by ballot and must receive two-thirds of the votes cast.

Art. 22. They shall be furnished with the annual volumes of Transactions; they shall pay no dues; they may transmit to the Association from time to time such communications as they may think proper.

Section VII.—Officers.

Art. 23. The Officers of the Medical Association of the State of Alabama shall be ten in number, as follows, namely:

1. One President.
2. Two Vice-Presidents.
3. One Secretary.
4. One Treasurer.
5. Five Censors.

Art. 24. The President shall be elected for one year; the Vice-Presidents for one year; the Secretary for five years; the Treasurer for five years; the Censors for five years. But every officer shall continue in office until his successor is duly elected and installed.

Art. 25. Of the five Censors one shall be elected at each annual meeting. But at the first election after the adoption of this Constitution five Censors shall be elected; one to serve for the full term of five years; one to serve for four years; one to serve for three years; one to serve for two years; one to serve for one year.

Art. 26. The election of officers shall be done in open meeting, by ballot, and without nomination. Delegates and Counsellors shall vote; and a majority of all the votes cast shall be necessary to election.

Section VIII.—The President.

Art. 27. The President shall be the chief executive officer of the Association. He shall preside at all the meetings of the Association; preserve order; give the casting vote when necessary; and perform such other duties as parliamentary usage imposes on presiding officers.

Art. 28. He shall prepare and deliver at the opening of each

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annual session an address on some subject connected with the interests and objects of the Association.

ART. 29. He shall every year appoint Reporters on the diseases, surgery, topography, and climatology of the various parts of the State, and on such other matters of professional interest as may in his judgment require investigation.

ART. 30. In the appointment of Reporters he shall give preference; first, to Counsellors; secondly, to Delegates; thirdly, to Members; and last of all, he may request reports from physicians who are not connected in any way with the Association, in counties where there are no county societies.

ART. 31. He shall appoint annually the requisite number of delegates to the American Medical Association; and to such other scientific bodies as it may be expedient to have this Association represented in.

ART. 32. He shall appoint every year an Orator, whose duty it shall be to prepare and deliver a public address on some subject connected with Medicine or the Medical Profession at the next annual meeting after his appointment.

ART. 33. He shall, in the intervals between the annual sessions, direct and control the general policy and business of the Association; but always with careful attention to the precedents and customary usages of the Association and to its constitutional provisions.

SECTION IX.—The Vice-Presidents.

ART. 34. The Vice-Presidents in their order shall, in case of the absence or the death of the President, discharge all the duties belonging to the Presidential office.

SECTION X.—The Secretary.

ART. 35. The Secretary shall have charge of all the books, papers, and records of the Association, except those belonging to office of Treasurer.

ART. 36. He shall record the minutes of the transactions of the Association in all its sessions.

ART. 37. He shall conduct the correspondence of the Association under the direction of the President.

ART. 38. He shall have the custody of the Seal of the Association, and affix it to all official documents of the Association under the direction of the President.

ART. 39. He shall be *ex officio* Chairman of the Publishing Committee.

ART. 40. He shall keep a list of all the delegates from county societies who attend the sessions of the Association, and publish their names annually in the Transactions.

ART. 41. He shall keep the Roll of Counsellors, and shall report

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annually to the House of Counsellors the names of those who have retained their membership by compliance with the provisions of this constitution, and also the names of those who have forfeited membership, together with the cause of such forfeiture.

ART. 42. In the absence of the Treasurer he shall collect the annual dues of the Delegates and Counsellors in attendance at the annual sessions.

ART. 43. The necessary expenses incurred by the Secretary in attending the annual sessions shall be defrayed out of the funds of the Association.

SECTION XI.—The Treasurer.

ART. 44. The Treasurer shall have the custody of all the moneys, bonds and securities belonging to the Association.

ART. 45. He shall collect from the Delegates and Counsellors the annual dues and give receipts for the same.

ART. 46. He shall at the annual sessions of the Association make Annual Reports of the financial condition of the Association, stating in full, all moneys, bonds and securities on hand; the several amounts received during the year, from whom and on what account; the several amounts paid out during the year, to whom and on what account; the several amounts due by the Association, (if any,) to whom and on what account; the several amounts due to the Association, (if any,) to whom and on what account.

ART. 47. He shall also include in his annual reports the names of all Counsellors who may have discontinued their membership by failing to pay the annual dues.

ART. 48. He shall furnish the Secretary of the Association, two months after the adjournment of the Annual Sessions, with the names of all Counsellors and Delegates who have paid their annual dues, as a guide to that officer in the distribution of the annnal volumes of Transactions.

ART. 49. He shall transfer none of the moneys, bonds or securities of the Association except on a written order signed by the President and Secretary.

ART. 50. He shall give bond with security, to be approved by the Board of Censors in an amount to be fixed by the Board of Censors equal to about double the sum likely to be in his hands at any one time, for the faithful performance of his duties; and said bond shall be properly certified and recorded according to the laws of the State of Alabama.

ART. 51. The necessary expenses incurred by the Treasurer in attending the annual sessions shall be paid out of the funds of the Association.

SECTION XII.—The Board of Censors.

ART. 52. The Board of Censors shall hold such meetings, concurrently with the annual sessions of the Association, as the busi-

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ness they have on hand may seem to require; and three Censors shall constitute a quorum.

ART. 53. The senior Censor present at any meeting of the Board of Censors shall act as Chairman of the Board; and the junior Censor present as Secretary.

ART. 54. The Board of Censors shall act as a General Committee of Reference in all questions relating to the organization and general welfare of the Association.

ART. 55. They shall act as a Court of Impeachment and try all charges made against officers and members of the Association, and all appeals brought up from the county societies.

ART. 56. They shall examine annually the books and accounts of the Secretary and the Treasurer, and report to the Association the state in which they find them.

ART. 57. They shall prepare from time to time, under instructions from the Association, instructions for the guidance of the boards of censors of the county societies; and try all appeals from the same.

ART. 58. All the rulings, decisions, and official acts of whatever nature done by the Board of Censors shall be submitted to the Association in annual reports, to be discussed, approved, modified, or reversed, at the pleasure of the Association.

ART. 59. They shall examine all persons proposing to practice medicine in the State of Alabama, who make application to them for that purpose, and issue to such as they find sufficiently well qualified, Diplomas, which shall entitle their recipients to receive professional recognition and to practice medicine in all parts of the State.

SECTION XIII.—Finances.

ART. 60. Every Member of the Association shall pay annually into the Treasury the sum of one dollar, which amount shall be collected in the county societies in any way they may themselves prefer; and shall be sent up at the time of the annual sessions in charge of their respective delegates.

ART. 61. Every delegate representing any county society in the Association shall pay annually into the treasury the sum of ten dollars; and this amount shall be paid before he signs the Roll of Delegates and receives his certificate of attendance.

ART. 62. Every Counsellor of the Association shall pay annually into the treasury the sum of ten dollars; and if he is in attendance at the session this amount shall be paid before he receives his certificate of attendance; but if he is not in attendance at the annual session it shall be transmitted to the Treasurer within two months after the adjournment.

ART. 63. None of the funds of the Association shall ever be appropriated to furnishing festivals or entertainments at its sessions; nor for any purpose whatever except such as may look directly to

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the advancement of medicine, including first under this head the publication of an annual volumes of Transactions.

ART. 64. There shall be, as part of the regular proceedings of the Association, an Annual Dinner, to be given on the evening of the last day of each annual session; and to be paid for by those members of the Association who choose to participate in it. For this purpose, on the first day of the session every member who desires to take part in the Annual Dinner shall give his name and ten dollars to the Secretary, so that the necessary arrangements may be made. If any of the money so raised shall be left after the expenses of the Dinner have been paid, it shall be paid to the Treasurer and go into the general fund of the Association.

SECTION XIV.—County Societies.

ART. 65 As rapidly as it can be done, County Medical Societies shall be organized in all the counties of the State, under charters derived from the State Association.

ART. 66. The county medical societies shall have immediate jurisdiction over the medical profession and over all the interests of the medical profession in their respective counties. But shall be under the general control and direction of the State Association.

ART. 67. They shall adopt the Code of Ethics of the American Medical Association.

ART. 68. They shall admit as members none but regular graduates of reputable medical colleges, and these only under such rules and regulations as shall be from time to time determined by the State Association.

ART. 69. They shall have the right to make laws and regulations for their own government; to elect their own officers; to appoint their own Delegates to the American Medical Association; and to perform all other needful acts not inconsistent with the constitution of this Association.

ART. 70. Every County Society shall appoint annually two Delegates to represent the views and interests of its members in the State Association.

ART. 71. Every County Society shall transmit annually to the State Association through its Delegates: 1st. The annual contribution of one dollar from each member of such County Society. 2d. The Report of the Secretary of such County Society of the Roll of its officers and members, giving names and postoffices in full, together with anything of interest which may have occurred in the Society during the year. 3d. Such Essays on Medical or Surgical topics, and such reports of cases, as may be esteemed of sufficient importance to be submitted to the consideration of the State Association.

ART. 72. Every County Medical Society shall have a Board of Censors, consisting of three or five of its most honored and trusted

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members; and these Boards of Censors shall have it in special charge to do three things, namely:

ART. 73. 1st. To make a register of all the practitioners of medicine in their respective counties who hold diplomas of reputable medical colleges, and who are in good standing, and to publish the same; and the courtesies of the profession as to consultation, etc., shall not be accorded to any practitioner whose name is not registered.

ART. 74. 2d. To examine all persons hereafter proposing to study medicine in their respective counties; and no practitioner shall receive as a student of medicine any one who does not hold a certificate of having passed a favorable preliminary examination of the Board of Censors of his County.

ART. 75. 3d. To examine carefully every person who proposes hereafter to commence the practice of medicine in their respective counties, provided such person holds the diploma of a reputable college. The names of such as pass a favorable examination shall be entered on the Register of Physicians for the county, and he shall be admitted to all the privileges of the profession; but such as pass an unfavorable examination shall not receive professional recognition.

ART. 76. But if any person so proposing to begin the practice of medicine in any county holds the diploma of the Board of Censors of the State Association, he shall be registered without examination by the County Board of Censors.

ART. 77. The Register of Physicians for the several counties shall be published annually in such way as the several County Societies shall direct, for the information of the profession and the public.

ART. 78. The County Societies shall all consider themselves bound to abide by the decisions of the majority of the members at any annual session of the Association, whether the votes of their own delegates be recorded in that majority or not.

ART. 79. Every county society, within whose bounds the State Association shall determine to hold any annual session, shall make all necessary arrangements for the same.

SECTION XV.—Business of the Association.

ART. 80. The Association shall hold one session every year, at such time and place as a majority of votes may determine; provided, however, that the Association shall not meet at any one place for two consecutive years.

ART. 81. The general order of business at the annual sessions of the Association shall be as follows, namely:

1. The registration of delegates and counsellors in attendance. This can be mostly done under the supervision of the officers before the Association is called to order.

2. Formal opening of the session, including call to order by the

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President; prayer; address of the Committee of Arrangements; and the annual address of the President.

3. The revision of the minutes of the last meeting for the correction of any errors into which the Secretary may have fallen.

4. Reports of Secretary, Treasurer, Board of Censors, and Special Committees.

5. Reports from county societies.

6. Motions, resolutions and miscellaneous business.

7. Regular reports on the diseases of the different counties.

8. Papers received from county societies, under Article 71.

9. Election and installation of officers.

10. Miscellaneous business.

11. Adjournment.

ART. 82. The order of business, laid down in article 81, may be suspended at any time by a vote of two-thirds of the members present.

SECTION XVI.—Offences and Punishments.

ART. 83. Every member who shall be guilty of unprofessional conduct by violation of the provisions of the Code of Ethics, or of any gross immorality or conduct unbecoming a gentleman, shall be expelled from the Association, and shall forfeit all professional recognition and courtesy; or, if the case is not sufficient to justify expulsion, he shall be subjected to such censure as the Association may think warranted by the circumstances.

ART. 84. All charges of unprofessional conduct or of any malfeasance against any member or officer of the Association shall be made to the President in writing, and shall be authenticated by the signatures of at least two members of the Association.

ART. 85. All such charges shall be read by the Secretary at the annual session of the Association; and shall be spread on the minutes, and then referred to the Board of Censors for investigation.

ART. 86. The Board of Censors shall make their investigation of charges referred to them as speedily as may be consistent with the attainment of correct knowledge in the premises, and make such report to the Association as will enable the Association to have a proper understanding of the case.

ART. 87. Every member against whom charges are alleged shall have the right to be heard in his own defence, either in person or by counsel; and shall be furnished with a copy of the charges against him and allowed a reasonable time to obtain any necessary testimony.

ART. 88. The case being brought back to the consideration of the Association in *commitia majora* by the report of the Board of Censors shall be subjected to such discussion as the Association may determine, and shall be decided by vote by ayes and noes.

ART. 89. A vote of censure may be passed by a majority of the

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members present; but a vote of expulsion shall require the concurrence of two-thirds of the members present.

ART. 90. The State Association shall have appellate jurisdiction in all trials before county societies. In all such cases a full report of the proceedings in the case of the county society shall be presented to the Association properly authenticated. The charges shall be referred to the Board of Censors, and the whole process of trial shall be in conformity with the provisions of the previous articles of this section.

SECTION XVII.—Amendments.

ART. 91. All amendments of the provisions of this Constitution shall be proposed in writing, at a regular annual session of the Association, shall lie over until the next annual session, and shall then require for its enactment a majority of two-thirds of the members present, the vote being taken by ayes and noes.

On motion the plan of constitution was referred to a committee of five, to be reported on at the next annual session.

Committee: Drs. Geo. E. Kumpé, of Leighton; E. Mason, of Wetumpka; R. D. Webb, of Livingston; J. F. Johnston, of Montgomery; and G. A. Moses, of Mobile.

On motion it was ordered that two hundred extra copies of the proposed constitution should be printed at the expense of the Association for the use of Members.

Dr. J. S. Weatherly moved the appointment of a committee of three, of whom Dr. Peter Bryce, of Tuskaloosa, should be chairman, to mature a plan for the establishment of an asylum for inebriates and opium eaters in this State. Adopted.

Committee: Drs. Peter Bryce of Tuskaloosa; J. S. Weatherly, of Montgomery; and R. F Michel, of Montgomery.

Dr. T. C. Osborn moved to amend Article 5 of the By-Laws so as to make it read as follows:

Article 5. The Treasurer shall address a circular to each delegate and permanent member of the Association immediately after the annual meeting, informing him that unless his arrearages are paid up within two months next after adjournment, the Secretary will omit his name from the list of members in the Transactions. Adopted.

On motion of Dr. Osborn it was also resolved that Article IV, Section 4, of the Constitution, should be amended by adding to the end of it these words: "And shall appoint an appropriate number

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of delegates to represent this Association in the American Medical Association."

On motion the hour of ten o'clock to-morrow morning was set apart for the reading of a paper on Anatomical and Physiological Reflections of the Eye, by Dr. R. F. Michel, of Montgomery.

On motion it was ordered that the session of the Association to-morrow shall be from 10 o'clock A. M. to 3 o'clock P. M.

On motion the Association adjourned to meet again at 7½ o'clock P. M., to attend the delivery of the annual oration, by Dr. Wm. H. Anderson.

Evening Session.

The Association met pursuant to adjournment at 7½ o'clock, and marched in a body into the hall where front seats were reserved for them. The hall was crowded with ladies and gentlemen, and a band of music added to the attractions of the occasion. At 8 o'clock the Orator, Dr. Wm. H. Anderson, of Mobile, was introduced to the audience by President Ross, and proceeded to deliver the annual oration, which will be found in its proper place.

SECOND DAY—*March 22d.*

The Association convened in Franklin Hall, and was called to order by Vice-President E. D. McDaniel, at half-past 10 o'clock. The minutes of yesterday's meeting were read and approved.

A communication was received from Drs. A. P. Hall, and J. L. Collins, physicians to the City Hospital, inviting the Association to visit that institution. The invitation was accepted and 9 o'clock A. M. to-morrow fixed as the time.

A communication was received from Dr. Wm. H. Anderson, Dean of the Medical College of Alabama, inviting the Association to visit the College during their stay in the city. The invitation was accepted, and the time fixed for to-morrow morning as the members return from the City Hospital.

A communication was received from Col. Thomas H. Herndon, President of the Franklin Society, offering the members of the Association the use of the Franklin library and reading room during their stay in the city. The invitation was accepted and the thanks of the Association returned for the courtesy offered.

A communication was received from Col. Price Williams, Presi-

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dent of the Board of Trade, offering the members of the Association the use of the reading room of that institution during their stay in the city. The invitation was accepted and the thanks of the Association returned for the courtesy offered.

The special order for the hour was then called up, and Dr. R. F. Michel read his paper entitled Anatomical and Physiological Reflections on some parts of the Eye. It was referred to the publishing committee.

The hour of 12 o'clock having arrived the special order for that time was called up: namely, the report of the Committee on Medical Education, when Dr. J. S. Weatherly, the chairman of the committee, presented a paper on that subject.

Dr. Geo. A. Ketchum, of Mobile, inquired if he understood the gentleman to offer the paper as the report of the committee on medical education appointed at the last annual session of the Association; stating at the same time that he had been appointed a member of that committee, but had not been consulted in the preparation of the report, and was therefore not to be held responsible for any thing which it contained. Drs. J. F. Johnston, of Montgomery, and Jerome Cochran, of Mobile, also made similar statements and disclaimers. Dr. Weatherly explained that he had prepared the report without consultation with the other members of the committee; that it expressed only his own views, and the other members of the committee were in no way responsible for it; that it was not properly the report of the committee at all, but a paper prepared by him as an individual member of the Association. After these explanations the reading of the paper was allowed to proceed.

ADDRESS OF DR. WEATHERLY ON MEDICAL EDUCATION.

Mr. President and Gentlemen of the Association:

In appearing before you, to-day, with the desire of making a few remarks upon the great subject of medical education, and the elevation of our profession, I feel most profoundly my utter incapacity to handle the subject in the manner demanded by its importance. I tremble upon the threshold when I think of the great minds that have been, and are still at work trying to solve the vexed problem of what is best to be done for the purpose of placing our noble science upon a proper basis in this country.

But shall we stand still because others have failed, or given up in

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despair? All great movements are necessarily slow at first, and what we inaugurate to-day may not receive its finishing touch for years to come.

The world is progressing, and each successive day throws new light upon some subject that has heretofore been enveloped in doubt and uncertainty, and what may seem complicated and improbable to us of the present time will be clear and simple to those coming after us. It is therefore necessary for us to act now (for our deeds live after us,) so that our experiences and trials will not have to be gone over again, but be made to serve as beacon lights, to assist our successors over the rough places which have already been overcome by us.

For years past, the great complaint of American physicians has been, that although the science of medicine was evidently advancing, yet it was being so crowded with illiterate and incompetent men as to greatly retard its onward march toward that perfection which all good men wish to see it attain, and that if something was not done, and that quickly too, it would soon be lost in the ample folds of quackery and empiricism, whose ranks are being constantly replenished from the innumerable medical colleges, whose cheap tuition and low requirements for graduation induce men to become students of medicine who are not fitted either mentally or morally for becoming acquainted with a science second to none in importance, and more difficult than any other of being mastered in all of its various branches—a science deep-rooted and wide-spread, and affecting every one, rich and poor, more deeply interesting to humanity than any other calling, dealing both with the physical and moral man. Strange, indeed, is it that the people do not recognize the fact of its intimate relations with their welfare and happiness, and demand in tones not to be mistaken that none but men of high culture, mentally and morally, should be admitted into this priesthood, whose business it is to watch over them in the journey of life, seeing that this life which cannot be restored once that it is gone, be prolonged to its fullest extent, that the lives of themselves and their loved ones be not terminated too soon by unfortunate diagnosis or a failure to apply the right remedies at the proper time.

That the people of the United States submit more quietly to imposition from the profession than in any other country is not to be wondered at. In Europe the governments protect both the people and the profession, but here there is no help save what can be accomplished by the profession itself. In fact it has been thought by some that our grand old science, hoary with age and venerable from its antiquity, would soon be stifled by the fearful number of parasites that have been engrafted upon it—some of them almost as old as the science itself. The question comes up then, shall we abandon it to these foul exhausters of its growth and life without an effort for its rescue? For one, I say not; and I am willing to lend

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my feeble support to any reasonable step looking to improvement, come from whatever source it may.

But let us be sure before we move that we are on the right road; for it is far better for us to stand still and reserve our strength than to have to retrace the steps once taken.

With the view of making an organized movement in opposition to the downward tendency of the profession in this country, some twenty-three years since, the American Medical Association was formed. It has been faithfully at work from that time to the present; and very much has been done by that body in elevating the tone of the profession all over the country, and in directing the minds of medical men to the great necessity of reform. If its many recommendations could have been carried out, I should not be occupying your time to-day. But its influence being exerted morally alone, and from the fact that the colleges have always had such large representatives in its councils, and from the almost impossibility of getting uniform action between them, (without which it is evident nothing can be done) few permanent and practical changes have been made. Every report which has been read before that Association upon the subject of medical education, teems with earnest appeals and recommendations for reform, and if nothing else has been accomplished, it has done some good in creating an unusual desire that some action may soon be taken for placing the profession in America upon an equality with that of other countries.

That it will take time no one can donbt. Society is organized upon a different basis in this country from most others. In fact, we might say that everything here is an experiment; liable to constant change, and it is to be hoped also to great improvement as we grow older and get more settled.

That the American Medical Association, composed, as it is, of members from every part of our country, moved by no other desire than the love they have for the profession of their choice, will at some future time perfect a plan which will be acceptable and approved, I have little doubt. Whether it will come through the plan so ably advocated by its late distinguished President, Dr. Baldwin, one of Alabama's much and deservedly honored sons, is yet to be seen. But come it will, I am confident, and from the efforts of that body, and in spite of the jeers and scoffs of some who delight to hurl their puny shafts at this noble American institution: noble from its grand aims and its true catholic spirit. That it will never recommend cheap medical education as a means of progress and reform I am fully convinced, and for reasons, it seems to me, that must be patent to all thinking men.

The evident effect of cheap medical education would undoubtedly be to induce a great many to enter the profession, who, as Dr. Cochran says, "study medicine as a mere trade, not as a liberal profession, and they are chiefly anxious to get a diploma, which gives

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them a quasi respectable position in the world with the least possible expenditure of time and money." Men who will not have the necessary ground work, naturally or by education, without which it is utterly impossible to become scientific physicians. All cheap things are valued accordingly, and when it takes no more time, money or preparation to enter what should be a learned profession than it does one which does not absolutely require much learning, men will reason that as it will probably sound better to be called doctor than tradesman, and as it will take no more outlay (or not so much) of time and money, to acquire a profession than it will to get a trade, they will become doctors, and if they cannot succeed at legitimate medicine, they can swell the ranks of the quacks, and eke out a livelihood by imposing upon the credulity of the public, which unfortunately they soon learn is easily done. Do not understand me as undervaluing the importance of the trades. They have their legitimate position in the great fabric of society, and are just as important as the learned professions. All men, however, cannot become tradespeople or mechanics; neither would it be well for them all to become doctors.

Admitting that sufficient preparation will be demanded, and that no man who is not fully qualified will be allowed to graduate, it will not do away with the arguments of overcrowding an already overcrowded profession, thereby lowering its dignity and diminishing the emoluments which should attend it, and driving away from its folds men of intellect and energy to other callings, which do not require so many sacrifices of personal comfort, and are more remunerative. Already business men laugh at the idea of making a doctor of a boy who is considered capable of making a living at any other kind of business; and parents always, in selecting professions for their sons, take law for their boys who have the brightest intellects, reasoning that it would be foolish to send a boy of promise into a profession where small honors and smaller fees await his efforts. Consequently many of us have felt our cheeks mantle with shame at hearing a profession, at whose shrine we have sacrificed our best years, made a by-word by the people, as they pointed to men who had graduated even at our best schools, but whose ignorance was palpable to all. Under the present system of medical education, as generally adopted in the United States, we find that the ranks of legitimate medicine (not counting quacks) are more than full, and that according to the best statistics, we have about one doctor to every two hundred and fifty inhabitants who are able to pay for the services of a physician.

Now will any system, which is certain to increase the number very rapidly, be of any benefit to either the people or the profession? Will men of enlarged views and extensive preparation, be persuaded to enter a profession whose emoluments and honors are to be divided so infinitesimally? Will not many of the best men

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who are already in the profession, be forced to abandon a calling which, if legitimately followed, leads to want and poverty: whilst others less scrupulous will resort to methods which will put bread into their mouths, but will bankrupt them morally. It is from the ranks of the profession that many abortionists come, men who at one time were probably honest and honored, but driven to desperation they become murderers and live upon the sacrifices of innocent life. It has been said that the remedy for all of these evils was in the hands of the profession at large, and it is no doubt so, to a great extent; but how can you eradicate an evil when the source still lives, and is constantly pouring its muddy stream into the great river? Can you purify a stream whose supply comes from innumerable rivulets of poisoned water?

Until the standard of medical education is raised, and its honors placed so high as to be coveted by the best and highest intellects in the land, can we expect relief from the profession alone, independent of the colleges? It is evident then that the profession cannot be benefitted by any process whose tendency is to create a greater supply of doctors than is necessary for the welfare of the people. In Europe the Governments take care that the supply and demand shall be carefully regulated. The consequence is, that all over Europe, a doctor is an honored man. In some places his diploma is considered as a patent of nobility. Alas! how different in this land of isms.

There are dwellers in the land of Utopia whose brains are always filled with strange exaggerations. Men who dream of great things that they expect to accomplish in this land where systems of philosophy are born and launched into perfection in a single night; where grand castles of matchless proportions are built without means; where everything seems to be perfect and possible. Some of these Utopians dream beautiful dreams. They improve wonderfully upon the ways of this world, and are astounded that the heathens of this real land of ours will not see things as they see them, or think as they do. Medicine, as well as other walks of life, has its Utopian philosophers. These men fancy, that by making every man his own doctor, humanity will be benefitted.

They are all humanitarians and are close kin to that innumerable band of progressionists who are willing to cut loose from the traditions of the past and launch forth into all the modernisms of the day, from conservatism to radicalism, or from puritanism to free-loveism. They confound the benefits of free or cheap common education with free and cheap professional education, when there is really little comparison between them. Every sane mind will be improved and the individual benefitted by education, provided, however, always, that one is educated in a way to be of most service to oneself, or to mankind in general.

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It is not progress to educate people in a way to make them dissatisfied with themselves or with the station in which they are obliged to live. It is the education that teaches men and women to be better, more useful and industrious, that is needed, and not that which teaches them that honest labor is degrading. It does not follow that by making every man proficient in law, medicine or divinity, the individuals or humanity would be benefitted. Division of labor is one of the great axioms of political economy, and has a special application to this subject. But the laborer must be sure of just and sufficient recompense or he is a dull and inefficient workman.

Again, these Utopians are great clamorers for the rights of the people. Now let us inquire how the people are benefitted by cheap doctors. Do they want men, who commencing the study of medicine without much preparation, are rushed through a medical college in two short winters, and with such a little expenditure of intellectual labor or money as not to have been impressed with the great importance of their calling? No sir! The people whose lives are to be intrusted to their medical advisers want men who have been thoroughly impressed with the high responsibility which rests upon them, when they become clothed with the mantle of the profession.

It is to their interest to have men who have devoted themselves mentally and physically to the elevation of the great truths of medicine: truths deep and difficult to penetrate, calling forth all the energy of heart and brain to master. Little benefit would it be to the people to have doctors thrust upon them whose professional education had been obtained so easily as to have their minds groping in the dark, utterly unable to comprehend the wonderful workings of nature, the grand high priestess of medicine, standing at the door of our science, blinding the eyes of the ignorant, but an effulgent light to those who are capable of understanding her grand teachings and applying them to the eradication of disease and the prolongation of life. Human life! how lightly do some men value it. How light, alas! do some doctors look upon it. A toy with which they can play, or a sealed book into whose mysteries they have failed to penetrate. How many hecatombs of human lives have been sacrificed by the medical schools, which are vieing with each other in their facilities for launching out doctors with quickness and dispatch.

Prof. White, of Howard University, says in a recent lecture delivered to his class: "Unless a change is wrought where I consider the trouble lies, namely, in our medical schools; so long as it is held that there is a demand for cheap doctors in this country, and that an American can get as good a medical education in three short years, without any necessary preliminary mental training, as a Prussian or Austrian youth thoroughly drilled to methods of work and habits of industry can get in six years, or one good enough at any rate, so

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long shall we make poorly educated doctors and nothing else, or we should do so at least if students themselves did not know better and act accordingly in exceptional cases." Again he says: "Do we ever reflect that the multitudes of medical students in Berlin or Vienna are a reproach to our country?" It is common for advocates of cheap medical education in this country to refer to the European schools as examples of the great benefit of such a plan. Doubting whether the system of education which is found to work so well in Europe will ever be adopted, or even be found applicable to this country, so different in manners, customs and government to those of the old world, yet I am willing to admit that medical teaching and medical colleges in Europe are far in advance of those of the United States; and I think that they ought to be. They have had far more experience than we have had, and few of the governments being afflicted with spread-eagle notions as to the rights of man, all laws have to be obeyed and respected. We therefore admit at the start, that medical education in most European schools is superior and more thorough than it is in this country. Now, let us see if it is also cheaper. It is true that the lectures of the Professors in most foreign schools are free to the student. But what difference does it make whether he has to pay his money out for inscriptions and a variety of other things, or for lectures? Money he must have, and that in no small amount, or he cannot graduate in any European school that I have ever heard of. In France there are only three schools, or faculties, which are permitted to grant diplomas. Just think of that, in the first place as compared with the number in this country. One of these is located at Paris, one at Montpelier, and one at Strasbourg. The Professors are selected with great care, after proving themselves thoroughly qualified to teach. Their salaries vary from eight hundred to twenty-five hundred dollars for each chair, and are paid by the government. There are twenty-nine Professors and the same number of assistants. The lectures go on for eight months in each year, one session of five months and one of three months. In addition to the lectures at the school of medicine, clinical lectures are delivered at the different hospitals. The student must inscribe his name once in every three months At the time of taking out his first inscription, he must deposit with the Secretary, first, his certificate of birth; second, his parent's or guardian's consent (should he be a minor) for him to study medicine; third, a certificate of his morality; fourth, his diploma of Bachelor of Letters. In addition, after his fourth inscription, he has to show his diploma of Bachelor of Science He must study for five years and submit to five examinations. Some years since, four years were thought long enough, but it was extended to five, upon the ground that the profession was being too much crowded from the short time that it took to graduate.

Now for the expenses of the free schools of France: The stu-

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dent must deposit thirty francs for each of the sixteen inscriptions; then he has to pay ninety francs for each of his five examinations, and two hundred and forty for his thesis and diploma. To make the thing plain I will present a table of expenses, which I extract from a recent letter from Paris:

First—Two Bachelor Diplomas	150	francs.
Second—Sixteen inscriptions, thirty francs each	480	"
Third—Four years dissections, twenty francs each	80	"
Fourth—Three final examinations, thirty francs each	90	"
Fifth—Five doctor's examinations and diploma, ninety francs each	450	"
Sixth—Examination of Thesis	240	"
Seventh—Average cost of Thesis	400	"
Eighth—Doctor's gown	10	"
Total	1900	francs.

which is equal to three hundred and eighty dollars in gold. Five years is the average time, but few get through earlier than six, while many are seven years.

The actual expenses, you see, paid for instruction, or for the privilege of attending lectures with a view of graduating, is more than double what it takes to graduate at the most expensive school in the United States. In addition to this we must take into consideration the amount of money spent in getting ready to commence the study of medicine. For although the most of the Universities are free (so called), yet we find that the actual outlay of money is so great that comparatively few young men can afford to become sufficiently well educated, to even commence the study of medicine. Then the amount that has to be expended for board, clothing, etc., for the five or six years spent in study, is quite an item of expense. It is true that the professors are independent of these fees paid by the student, and it is probably best that they should be. I am not arguing as to how the professors should be paid or what amount they should receive for their services. My object is to show that cheap medical education is not the plan by which good and learned physicians are to be made, and I wish to make it plain that in foreign countries where they have had the experience of centuries in devising the best method for teaching, and where the governments pay especial attention to the preparation of their doctors, cheapness or great facilities for entering the profession are not considered essential, but rather as draw backs.

Indeed, great preparation and long study, necessarily entailing a heavy expenditure of money, are, however, considered as paramount. The inducement which is held out for this great outlay of time and money is that the ratio of supply and demand is so carefully regulated that once a young man has his diploma secure, he is almost sure of a competency, and has no fear that he will be compelled to abandon a profession which has cost him so much, to engage in other pursuits for the purpose of making a living. Again, it has cost him so dearly as to be an object of pride, not to be cast aside as a useless title.

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In Germany we find about the same system prevailing. The expenses probably are not quite so heavy in Prussia, but much more so in Austria. The preliminary examinations are more searching, and so many obstacles have to be overcome before and during the time of study, (which lasts from four to six years), that few are willing to encounter them. The Professors are all appointed and paid by the government. In Berlin the number of Professors is twenty-eight, with thirty-nine assistants.

The salaries vary from five hundred to two thousand dollars. The student has to pay as he does in France, so that when he graduates, even in that cheap country, where every thing is very cheap, when compared with this country, the actual sum of money paid out amounts to more than it takes to graduate in any first-class school in the United States. Now you might suppose that after all this preparation and expenditure of time and money—for he has to be in actual attendance upon lectures for ten months out of each year, for five or six years—he would be allowed to practice upon showing his diploma. It is not so; he has now to submit to a more strict and rigid examination, before the State examiners, which board is appointed by the government, and is entirely independent of the colleges. This entails upon him still more expense.

It is clear then, it seems to me, that it is sheer nonsense to compare free or cheap medical education in this country, with the so-called cheap medical education of France and Germany. Here two short courses of lectures, (and it is not even obligatory to attend them,) comparatively no preparatory training, and, if the system recommended by the Faculty of the Mobile College should meet with approval, no expenditure of money will be required. Then what are we to expect? Will our noble and God-like profession be held aloft upon the shoulders of intellectual giants? or, will it not be dragged down lower and lower by the pigmies who will enter it because it requires neither capital nor intellect to become a doctor?

In Great Britain they make no pretensions to cheap medical education. The Professors are paid by fees collected from students, and the expense is simply enormous, amounting to much more than in any other country, while the requirements made upon the students are as strict as on the continent. To show what opinions other men entertain, who have given the subject great thought, I propose to make a few quotations which I find prepared by Dr. Gaillard, and sent out in a circular from the Louisville Medical College. Sir Charles Bell says: "That governments should equalize the fees paid for lectures, because inferior teachers offer to teach at half price. Their recommendation is that they give their certificates cheaply." Prof. Caldwell says: "It may be said that nothing great or useful can be done on the score of instruction without money. We do allege this openly, and challenge refutation. We simply contend that the laborer is worthy of his hire. The more work he does and the

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better he does it, the higher the wages he deserves or must receive, and those who assert to the contrary are uninformed and insincere." Dr. Daniel Drake says: "I believe a low price to be calculated, in the estimation of the profession, to disgrace a school. It creates the impression that the trustees believe the professors cannot attract students, but by saving them money." M. Guizot says: "That cheap professional education multiplies in the profession men of the second order, and the obscure and idle multitudes." Adam Smith, in his letter to Dr. Cullen, "declared that the reduction of the cost of professional education, whether by means of low fees or public endowment, below the standard of its real value, would so increase the number of professional men, that their necessities would oblige them in general to content themselves with a very miserable recompense, to the entire degradation of the now respectable professions of law and physic. That the effect would be to abandon the professions to an inferior class of practitioners, with whom no community could safely trust its health. We trust" he says, "our health to the physician, our fortune, and sometimes our life and reputation, to the lawyer and attorney. Such confidence could not be safely reposed in people of very low or mean condition. Their reward, therefore, must be such as may give them that rank in society which so important a trust requires." My last quotatation will be from a living man whom you all know. I mean Dr. Cochran, of Mobile. He says, in a speech delivered at Montgomery, only one year ago, upon the subject of medical education: "the law of compensation is universal. If you want any thing in this world, or indeed in any other, pay for it and take it. But remember it must be paid for. It cannot be had on other terms. The fates are never cheated. Who bears the cross shall wear the crown." Our learned and most efficient secretary also thinks that he has a plan by which all trouble will be obviated, and the flag of reform be boldly flung to the breeze. It is to have a Board of Censors appointed in each county of the State. Now, in my opinion, if this were practicable, it would not meet the difficulty. We have not, and probably never will have, societies in half the counties of the State, and if we had, I have no idea that the authority of such Boards would be respected unless we have legislative enactments conferring power upon them. This is impossible now, and for all time, until we educate the people up to the point of protecting themselves against quacks and imposters, instead of encouraging them.

The only practicable Board of Censors would be that recommended by the American Medical Association, and which I had the honor to lay before you at our last meeting. Since then I have written to Dr. Davis, the chairman of the committee appointed by the National Association, and will read you his letter. It is not very encouraging as to the speedy adoption of the plan recommended, still some good may come from it after awhile. I also, looking

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to the probable adoption of the resolutions by this Association, drew up a bill which I had introduced for the purpose of testing the temper of the Legislature, and also in case it passed to make the Board effective. I read you a copy of the bill. I left out everything which was thought calculated to defeat it; thinking that it would be better to trust to future legislation than to ask too much at first. The bill was referred to the Judiciary Committee, who did not think it of sufficient importance to make any report upon it. I feel satisfied that no action of ours, unless we have the power to have offenders punished by law, will be of any avail. Still I think it would be well to pass these resolutions and make the trial. Admit that we can get an effective Board of Censors in every county in this State, would it be right for us to flood other States with the material which this system of free or cheap medical education is certain to bring into the profession?

It is all sophistry to say that we must have cheap medical education for the purpose of allowing worthy young men an opportunity of entering the profession, who are too poor to pay their way through a medical college.

No one who has the mind, education and energy to make a successful practitioner, will ever be kept back for the want of means to defray his expenses. He will get them in some way, and if he has to make great sacrifices for the purpose, it will inure to his benefit in the end. How many rich men did any of you ever know to study medicine with the intenion of following it as a profession? Our ranks are made up of poor men, who had to struggle hard to get a diploma, and these men appreciate it for that very fact. It is dear to them as the apple of their eye; and the honor and dignity of their calling is more than a mere sentiment with them. You will find of these old soldiers of the profession who will advocate cheap medical education. I believe it to be the duty of this Association to assume high ground upon this question.

The tone and character of the profession in this State is supposed (and it ought) to be regulated by this body. No partisan feeling, for a moment, should be tolerated; for in the discussion of great principles, self or personal inclinations should be entirely lost sight of. And as I have now come to a point in which I shall have to allude to the late action of the Faculty of the Medical College of the State of Alabama, I wish to say in all candor, that so far as I am concerned, if I know myself, personal feeling or ambition has nothing to do in prompting any action in which I have taken a part. I claim now to be as good a friend as the College has, and for its Faculty I have the highest esteem and respect; and I am sorry that my honest convictions force me to differ from them upon this question. This may be, and probably is, a matter of indifference with them, still I must say I think the Faculty has committed a great error in abolishing its fees, especially without insisting upon a more

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thorough preliminary training previous to matriculation, and a higher standard of proficiency for graduation, so as to counteract in some measure the evil of offering inducements and facilities for entering the profession to great numbers of illy prepared men.

It also has the bad odor of under bidding other colleges, without showing to the world that the college is upon an equality with the best in the land, and that its diploma must be respected, wherever its recipient chooses to go; whether it be in Massachusetts or California. I say again that personal ambition (for I know that it has been said that it did) has not prompted the opposition to the action of the Faculty.

On the contrary, personal feeling and inclination would have moved me to adopt a different course; for it is always unpleasant to differ from our friends.

But when great and vital principles are to be discussed, and measures are to be adopted, that not only affect us of to-day, but also future generations, it is our duty to take a decided stand, and to adopt rules that will redound to the honor and lasting reputation of this Association. I am willing, myself, to go on the record, as opposed to cheap medical education in this country, without the corresponding requisites which are deemed indispensable in Europe.

I believe it will be alike detrimental to the good of the profession and to the welfare of the people. I am convinced also, that it is the bounden duty, as well as the right of this Association, whose business it is to guard with a zealous care the honor and dignity of the profession in this State, to speak out in unmistakeable language upon all questions relating to the action of its different members; especially when that action is of a public character. It has been said by the Mobile Medical Society, acting in behalf of the Faculty, that the profession at large had nothing to do with colleges, and should not meddle with them, but attend to its own business. Professor Cochran, however, for whom we all have the highest esteem, says that the profession at large is more to blame (referring to the low standard of medical education) than the colleges. His words are: "They have had the power to control the evil of which they complain and they have failed to exercise it." I agree with the Professor that it has the right, for power carries right with it, generally. I believe, moreover, that this Association as the representative of the profession at large in this State, when assembled in solemn council, has the power, and that it ought to say what is proper and ethical for any of its members, be they professors or not. I think that as we once endorsed the college fully, and promised to sustain it, individually and collectively, we now should say whether we still endorse it or not after the complete revolution that has come over its management. Of course we cannot (and I presume no one entertains such an idea,) control the action of the Faculty, as I believe the College is a private institution. They have the right to act for

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themselves but they cannot expect to be sustained by this Association against its own judgment.

I will say here, that I am not opposed to professors teaching for nothing if it be their fancy. I can't say that any one ought to object on their account.

That is not the point that I desire to make. I am also inclined to the opinion that it would be better, where teachers work for money, to have their salaries independent of the fees paid by the students. At the same time I think the student should pay well both in time and money for his medical education.

I have tried to show elsewhere, that it would not do to compare cheap, common or popular education with professional education. The one is actually necessary not only for the common good and the good of the individual, but for the protection of society itself. I presume, however, that no one will argue that it would be better to convert the world into a great doctor's office, and to set everyone to giving his neighbor physic in the most scientific manner.

The correct plan, it seems to me, is for the student, not only to spend plenty of time, but also money, for that is the real touchstone to the value of everything in this world: and then he will be in a condition to appreciate what has cost him so dearly. Not only that, the people will be taught as they are in Europe, to respect a profession whose honors have to be won at so much cost and labor. I believe also that it is the plan by which we are to have good teachers. They must be paid so well that the most learned in the profession will be willing to devote their time and knowledge to teaching.

In Europe, notwithstanding it has been said that the salaries of the professors was a mere nothing, I have shown that they were well paid by the government. They also are remunerated in another way: for the honor of being a professor in a European school brings money with it, by the increase of practice; for the people know that no man can occupy a professorial chair in a foreign University without great learning and proficiency in his particular branch.

In closing I must ask pardon for trespassing so long upon your time. I feel that it is, probably, the most important subject that we will have for consideration, and I hope there will be no hasty or immature action in the matter. It is a subject worthy of your calmest and wisest deliberations, and I most sincerely wish for the Faculty and the Association to work together in harmony for a common good. And I am anxious for some plan to be devised that will be agreeable and beneficial to all parties; and I am willing to support any measure looking to this end.

After Dr. Weatherly had finished reading his address, Dr. J. M. Williams, of Montgomery, presented a resolution of the Montgom-

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ery Medical and Surgical Society in the words following, to-wit:

HALL MEDICAL AND SURGICAL SOCIETY,
Montgomery, Ala., August 1st, 1870.

Resolved, That the delegates from this society to the next meeting of the State Medical Association, be instructed to enter their solemn protest against the action of the Medical College of Alabama, whereby fees for lectures have been abolished.

In accordance with the terms of this resolution, Dr. Williams moved that the protest of the delegates of his society against the action of the Faculty of the College in the matter complained of, be spread upon the minutes of the State Association.

This motion gave rise to a very animated discussion. The more prominent speeches made in the discussion are here given from memoranda furnished the Secretary by the gentlemen who delivered them:

ADDRESS OF DR. WM. H. ANDERSON.

Dr. Anderson commenced his remarks by stating that he had listened attentively to the paper of Dr. Weatherly, and was compelled to say that, like many other documents on the same subject, it found fault with the present system of Medical Education, but suggested no remedy. The drift of the argument, if indeed there was any argument in Dr. W.'s remarks, was that he objected to the system of Free Lectures. Let us analyze this objection for a moment, said Dr. Anderson. Does it not redound to the glory of Prussia and France that for many years their educational system has been free? Has it not called into their great cities thousands of students annually, who never would have sought their colleges if such had not been the case? and is an institution in the South, the down-trodden South, reft of her wealth, and almost of her nationality, to be reviled and abused because its Professors chose to open to her poverty-stricken inhabitants the halls of their College free of charge? Consider for a moment, gentlemen of the Association, the position that the Medical College of Alabama occupied when she reöpened her lecture rooms after the war. Her geographical position was such that she drew her classes from the same district of country that the Colleges of Nashville and Louisville drew theirs. These Colleges had thought proper to reduce the fees for attending lectures to a mere nominal sum—fifty dollars in one case, forty in the other; but while charging these *small* fees, they never turned any student off from their doors, so that really they taught many for no compensation at all. They had tried to get a uniform system of fees. They, like ourselves, had sent representatives to the Teachers' Convention at Washington City. No uniformity could be obtained. The subject was then referred to the American

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Medical Association. This body had practically ignored it. What then was to be done? Why, each College was left to do as it thought best.

The Medical College of Alabama thought best, after mature deliberation, to open her halls free of charge. She must either do this, or close her doors. Could she close them in justice to the State of Alabama, or to the citizens of Mobile. How stood the case? The State had appropriated fifty thousand dollars to erect the building; the citizens had subscribed sixty thousand more to purchase a Museum and Chemical Apparatus. There stood the building fully appointed. And let me ask you, Mr. Chairman, said the Doctor, if it was proper, if it was professional, if it was manly, to deny to the young men of Alabama the advantages of such an institution, because the paltry sum of fifty or a hundred dollars was to be considered in the way? Is it for such a cause that the Montgomery Medical and Surgical Society constitutes itself an inquisitorial body, and calls up the Faculty of our College to appear before its tribunal, and suffer its protest to go on the journals of this Association? Is it for such a cause that a very small majority of that Society has tried to use the Society's name and standing, in order to prejudice every medical man in the State against our institution?

Suppose, Mr. Chairman, that just after our long and disastrous war, an elegant College, with all the appointments for teaching, happened to be at Tuscaloosa, or any other portion of the State, and that, seeing its halls deserted, a half-dozen educated gentlemen were patriotically led to organize themselves into a faculty, and to offer to devote an hour or two each day to the instruction of the young men in the neighborhood, would there be anything criminal in such a step? Now, supppose a debating society in Mobile were to get incensed at such a proceeding, and to publish to the world that these philanthropic gentlemen were trifling with literature and science, and that they must be stopped. Would not that seem very strange? Yet, is it not equally strange that the Medical and Surgical Society of Montgomery should assume jurisdiction in the matter, appropriate to itself the dogma of infallibility, and hurl its anathemas at our College, which it had no share in building, in equipping, and to which it had never sent a single student.

But they say it is unprofessional to teach for nothing. When did they ever hear of any of the Faculty of the College doing anything unprofessional? Let me recall to their mind a circumstance of the past. When one of their own Society, Dr. Baldwin, desired to arouse the profession of the South, and to coax them once more into the National Convention—when he doubted and faltered as to whether his appeal should be sent forth to his professional brothers, who had been so long estranged from the Northern physicians—to whom did he apply for advice? To that noble old Roman, that proud chevalier of our Alabama profession—that Bayard of the

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South, to whom with one accord, we all attach the motto of *sans peur et sans reproche*, Dr. J. C. Nott, and when that distinguished scholar and philanthropist told him that he was right, and that he should "go ahead," he went on fearlessly, and felt that he had behind him a tower of strength which would bear down all opposition, so far as etiquette and a conscientious discharge of duty were concerned. Now, sir, we sought advice from the same medical patriarch. We did so because his influence built up this college, and we had rather see it close its doors forever than have it do anything that would dishonor the name of its illustrious founder. Dr. Anderson here read a letter from Dr. Nott, fully endorsing the action of the faculty.

Dr. Anderson then alluded to Dr. Weatherly's remarks bearing on the free system, as a means of lowering the standard of graduation. He stated that in his opinion the standard would be necessarily raised. He called attention to the recent graduating class of the Medical College of Alabama, and said that only two-thirds of the second course students had received diplomas. He challenged any college in the United States to show a better record. He alluded to the high standard of graduation at the University of Virginia, an institution preëminently occupying the first rank among American Universities, and as a proof that the money paid for fees had nothing to do with the standard of graduation, he drew a comparison between the two colleges, stating that at the University of Virginia it cost one hundred dollars to get a diploma, whereas, at the Medical College of Alabama all the lectures were free, it still cost with the matriculation fee for two courses, and other little incidental expenses, including the diploma fee, the sum of ninety dollars. But he thought the money argument so much dwelt upon by Dr. Weatherly, was too insignificant for an intelligent assemblage of physicians to waste time in considering.

After a few more remarks in keeping with the foregoing, the Doctor apologized to the Association for consuming their valuable time, and regretted that his friends from Montgomery had brought the subject before the meeting, stating that it presented the strange and sad spectacle of a party of gentlemen otherwise intelligent, honorable, and of good report, who, instead of doing all in their power to foster an institution in their own State, even using their energy and talents to destroy its influence, and to prejudice the whole faculty of Alabama against it.

ADDRESS OF DR. G. A. KETCHUM.

Mr. President:

I feel, that in rising to participate in this discussion, that I cannot extend to the gentlemen who have chosen to introduce this question, the same courteous indulgence granted by my more amiable colleague.

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For the standpoint from which I view these proceedings, I see a systematic, well arranged and persistent attack made upon an institution that I have learned to look upon as the "apple of my (professional) eye." An institution that in part was the offspring of my conception. An institution at whose birth I officiated. An institution through whose public infancy and days of its gradually increasing strength, I have watched with all a parent's solicitude and care, and given my energy, my industry, and my experience to place it on a firm and enduring basis.

It is charged against this institution that its recent action abolishing fees for professor's tickets, has a tendency to degrade the profession of medicine; to lower the standard of professional acquirements, and to injure the cause of medical education in the State. This is, indeed, a grave charge to bring against the faculty of the Medical College of Alabama. This charge is hurled against the great and good Dr. J. C. Nott, to whose ability, energy, and personal and professional worth the college is mainly indebted for its magnificent building, its perfect appliances for teaching, and the proud stand it took among the colleges of the South. He stood sponsor at its birth. He indicated the true line of policy for its successful career, and he, in his wisdom, cognizant of all the facts, approves and endorses its present course. Who dares hope in this State for sympathy when he charges a desire to degrade the profession of medicine and lower the standard of professional acquirements upon such men as Professors Ross, Anderson, Gaines, Cochran, Gilmore, Heustis, and the lamented Miller? These men by every word and act of their professional lives give the flat contradiction to the charge. They were the friends and the pupils of the fathers of medicine in this section. They were taught in a school too orthodox in its faith; were reared in too proud a companionship; in their pupilage and early professional life were honored with too much confidence and esteem, by such men as Fearn, Crawford, Mordecai, Woodcock, Nott, and others, ever to permit their feet to stray from the path of honor, or by an act of their lives to bring reproach on our glorious science. Such men I am willing to follow blind-fold, not fearing to be led from the true path of professional dignity; to such men, judged by all their professional lives, I am willing to commit the honor, the dignity, and the high standard of medical attainments in this State. Who have done more than they to give to this Association its high tone, or have contributed more to give interest to its meetings, or wisdom to its councils; and who, but one of those named, (Dr. Cochran) at the last annual meeting at Montgomery, introduced a plan of medical education, approved and endorsed by the faculty in this college, which was far in advance of any ideas previously broached, and which had for its especial object the elevation of the standard of medical acquirements far above any idea which the authors of this attack

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had previously contemplated, and which committed the Medical College of Alabama to a system of education far in advance of any similar school in the United States. Which even proposed that the faculty of the college should delegate to a board of censors the privilege of examining its own students, and granting diplomas. Does this look like a desire to degrade the profession of the State or to lower the standard of medical education?

To understand properly the position of the faculty, it is probably necessary to refer to the early history of the college, and this reference will explain the high ground that the faculty have occupied on this question. The founders of this institution fully understood the magnitude of the work they had before them, and before taking one step towards accomplishing it they determined that it should be a "first class" college in every respect, and that its varied appliances for thorough instruction should compare favorably with any similar institution in the country. Committed fully to this determination, they gave generously of their own means; they sought aid of their own friends and townsmen, who responded with a munificent generosity, which left but little more to ask from the State. An appeal was made to the General Assembly on the ground that an institution should be erected and set in active operation that the State should be proud of, and that should be first class in all respects. Fifty thousand dollars was the response of the State, and we were enabled to buy the capacious square of ground, to erect the commodious and splendid building, and to equip it in all respects in a manner as our first intentions indicated. The success of the college before the war more than realized our most sanguine expectations, and we felt that our citizens and our State had no just cause to regret the trust reposed in us.

After the war we were two years making fruitless efforts to recover from the "Freedman's Bureau" our building, our museum, our labratory, and all the expensive machinery of our college. At length we succeeded in regaining what was left by the vandals who had taken possession of it and converted it into a negro school and boarding house.

And now the anxious question arose, what shall we do to redeem our former pledges, and discharge our obligations to the State. our citizens, and ourselves? The prospect was by no means a flattering one, repairs to the building were sadly needed, much had to be added to the chemical department to replace that which had been removed. Heavy outlays were needed, and the prospects for a remunerative class were by no means flattering. Yet, recalling the fact that we were the custodians of a sacred trust—that we were in honor bound to offer all the advantages of the institution to the students of the State—and forgetful of the self-imposed labor, we did not hesitate long to adopt the course that our sense of duty and our professional pride dictated. We opened our lecture rooms without

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any hope or expectation of fee or reward. We toiled as faithfully, and exerted our energies as assiduously for the small class of fifteen students that presented themselves as though hundreds were in attendence. Not one cent of fees were appropriated by the faculty, but all went towards the necessities of the college. Nothing discouraged, the announcement for another course was published, and again a small class of twetnty-four or five attended; of these, as before, several were too poor to pay any fee, others gave their obligations to pay in the future, and the small income as before was devoted to the necessary expenses of the college.

At the close of this session we saw that one drawback to the success of the institution was the poverty of our southern country. Other colleges that charged but half rates were sought in preference. We knew that we were actuated by no mercenary motive, and that our duties were as arduous and occupied as much of our time and attention as if we were lecturing to a room crowded with attentive students. We felt that our means for imparting a thorough course of medical instruction were too valuable to be wasted, the advantages too great to be niggardly held out of reach of the great body of students, who were anxious to avail themselves of them, but that poverty forbade. Reasoning thus upon the situation in which we found ourselves, we determined to give our time, our energies, what of talent and ability we possessed to the one single purpose, the existence of our college and the advancement of medical education in our State. We discussed the point in all its bearings, and concluded to abolish all professorial fees, and invite all who were desirous of so doing to avail themselves of the advantages of our college. By this act we assumed a new relation towards our students. We no longer appeared as paid instructors, but entirely independent of fees, we were in a position to exact a higher grade of acquirements. No longer tempted by pecuniary reward, we could draw the line up to which each applicant for the honors of the institution should approach, upon a far more elevated grade, for we felt conscious that the advantages that the college afforded would draw many here who could badly afford to go elsewhere. And, gentlemen, the result of this session has fully demonstrated the wisdom of our course. With a diligent, attentive class of sixty students and sixteen graduates, fully up to the high standard that we warned them we should exact, we feel that through our personal sacrifices and efforts we have reached again a fair starting point to make this college the means of adding, year by year, to the glory of our profession and the good of the communities from which we draw our students. We never entertained the proposition to reduce our fees one-half, or underbid, that we might draw students for our personal benefit. We took higher ground and determined to throw open the advantages of this college free to all, that the greatest number might be benefitted by the means that had been

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placed in our hands for the public good, or charge the full rates of former years. And now how was our action viewed by the profession of the State? A short time after our circulars were distributed, I received a private letter from an esteemed friend, (Dr. W. O. Baldwin,) of Montgomery, informing me of the fact that a series of resolutions had been introduced in the "Montgomery Medical and Surgical Society," strongly condemning the course of the faculty. This was the first intimation that we had that we had been impeached by that august tribunal; this was the first intimation that we had that our very zealous friends in the cause of medical education had us before them for trial; that charges had been preferred against us; that our case had been argued, and we had been condemned; that all the forms of trial had been gone through with, but the very trivial one that the culprit had never heard of the crime with which he was charged, nor had he been heard in his own defense.

But later these resolutions were printed, and sent in haste to all the county societies in the State, and to several of the Southern medical journals for publication; letters were written, public feeling and prejudice industriously manufactured; members of the profession urged to take part against us; and all this done by our Montgomery friends without their once having asked us for an explanation, or without their once seeking the motives which had induced us to depart so far from the course which they, in their wisdom, would have prescribed for us. This was not all. Not satisfied with this determined and systematic attack upon our college, and persistent effort to effect its ruin, one of the gentlemen most active in this movement, had circulars printed which he sent to every portion of the State, denouncing the college and its new movement, drawing invidious comparisons between it and the college of a neighboring State, and doing what he could in his feeble way to break down the institution which we had so industriously attempted to build up, that it might prove an ornament to the State, and a pride to the profession. This gentleman, in his remarks just now, disclaimed the wish to be prominent in this matter. For his own sake, then, I would to Heaven he had conceived this thought before he advocated the passage of his resolutions before the Montgomery Medical and Surgical Society; before he urged upon that body to send copies of them to the local societies of the State, and to the southern medical journals; before he wrote letters to individual members of these societies to use their influence to pass them, and before he used all his talents and energy in manufacturing feeling and prejudice against the college. He should have thought of that before he had circulars printed, with his name appended, denouncing the course of the faculty, and urging the profession of the State to repudiate the institution. He should have considered the danger of his being prominent in this matter before he, as chairman of the Committee on Medical Education, without any consultation

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with any of its members, (one of which committee I had the honor to be) prepared a lengthy paper, which he produces when that committee is called, as a report of the committee on medical education, in which this college and the faculty are especially condemned, and in which the question, does a medical student get information, and does he rise to the proper standard of requirement in proportion to the amount of money he pays the faculty of a college, was decided very peremptorily in the affirmative. He should have hesitated at the position in which he was liable to be placed by this association, in this matter, before he uttered the opinions and expressed the views that he has this day, if he desired not to be prominent in this matter.

Gentlemen, the action of the Montgomery Medical and Surgical Society has seemed to us unkind and uncalled for. It is difficult for us to ascribe a good reason for it on any other hypothesis than their desire to destroy this college, that Montgomery should have the honor of erecting one in its stead. It seemed to us that it was uncalled for in Montgomery to have so exercised herself about the management of the affairs of this institution, when we refer to the fact that Montgomery has never yet sent a student to honor its lecture rooms by his presence. It was not candid; it was not in accordance with her professions of friendship; it was not in the true professional spirit for the Medical and Surgical Society of Montgomery to proceed in this matter without one word of intimation to us; without one word of inquiry as to our motive. It was not ethical to take the steps that have been so industriously pursued to prejudice the medical mind of this State, and of the profession throughout the South, against this institution, merely upon their own views of the action had by this faculty. This style of ethics might suit the latitude of Montgomery, but the Faculty of the Medical College of Alabama have been taught in a different school, and been the pupils and shared the companionship of those proud, high-toned men that but a few years back shed such glory on the profession of medicine here, and illustrated, by their lives, the high standard to which the true professional gentleman should aspire.

The faculty of this college feel that their recent action is but in keeping with the self-sacrificing spirit of the medical profession through all time. They have too much personal and professional pride to allow them to lower the high standard of medical requirements which they have ever maintained. They have too much personal and professional pride to allow them to prove recreant to the high trusts and responsibilities imposed on them as the custodians of this city's and this State's munificent offering for the advancement of our noble profession. They have too much personal and professional pride to do less than their whole duty to those gentlemen who present themselves here as aspirants for the honors of our profession, and as the future physicians of our land. They have

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taken no narrow view of their responsibilities but forgetful of themselves, forgetful of their ease and comfort, forgetful of social pleasures, forgetful of the hours of study and toil they were imposing on themselves, forgetful of the time they were giving to their professorial labors, which else could be devoted to their private interests, and mindful alone of the fact that they held the high trust as custodians of all that Alabama had done and contributed in her own limits for the medical education of her sons, they have so acted as, in their enlightened view, seemed most surely to advance the cause of medical education in this State; to advance the standard of medical requirements to be exacted from the students in their college, and to add glory, honor and renown to the science and art of medicine in Alabama.

ADDRESS OF DR. S. D. SEELYE.

Mr. President:

One would perhaps suppose from the language of the protest just offered, and now under discussion, that it was the unanimous, or almost unanimous voice of the society from which it emanates. But so far is this from the fact, that it was originally passed as a piece of parliamentary fencing, to prevent a much worse thing being done.

On the first Monday in August last, the resolutions censuring the Faculty of the Alabama Medical College, were first introduced before our society. These resolutions were carried after a vigorous debate by a majority of only one—the President giving the casting vote. A motion was then made to send a copy of the resolutions and the action of our society to every medical society in the State, and to publish the same in some of the medical journals. Fearing ing that if forced to the issue, this too would pass, and satisfied that some who voted for the resolutions were unwilling to take such a high-handed course, I, though having fought them with all my power throughout the debate, offered, as a substitute, "That our delegates to the next meeting of the State Association be instructed to enter their protest against the action of the Alabama Medical College."

The minority all understood it as a compromise—the best we could do under the circumstances—and all voted for it. In the earlier part of the evening, pending the adoption of the resolutions, I moved that a committee of conference be appointed to correspond with our Mobile brethen, the faculty of the college, and ascertain their motives which led them to issue their circular proffering their lectures free. It was urged that we knew these gentlemen as high-toned, intelligent, and honorable members of our profession, who would scout the use of any means deemed derogatory to professional honor, and that to pass these resolutions of censure without giving them a chance to defend themselves, was unfair, and con-

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trary to the spirit of brotherhood which we owed to them. The motion was also lost by one vote, and when at last we succeeded in confining the action of our society to a mere protest, and preventing the resolutions being sent broadcoast throughout the State, we, of the minority, felt that we had accomplished a good thing. It is but just to say that some of the more prominent advocates for the resolutions regretted afterwards that they did not give their support to the motion for a committee of conference. It has been said that the spirit of our society was unanimous in their condemnation of the action of the faculty of the college when the subject first came up in August last. This, Mr. President, was certainly an error. It is true that we offered the resolutions on different grounds, some claiming that we had no jurisdiction in the matter; some that they were premature, and censuring without a hearing, and others feeling that we might meet the question on its real issues, and that the question of free medical education would bear examination and discussion. This last was my own position on that night, and I urged that it might be fully discussed, and that no hasty action might be taken; that the genius of our country and of the times was tending toward free education in all its departments, and I could see no reason why our profession should form an exception to a practice which resulted in such great good in every other department of science.

And, Mr. President, these are my views to-day. I care not—none of us should care, whether a professional brother's education cost him nothing, or whether he were a millionaire and paid one-half of his fortune for it. The education is what we want—the qualification for the high and responsible duties of a physician's life—and these secure, we may well leave the question of price altogether out of consideration.

It is true, that holding these views, I have also felt the necessity of guarding our ranks against an unfair use of the graduating power held by the colleges. I would desire censorship conferred on disinterested parties who shall pass upon the qualifications of candidates ere a diploma can be granted.

The next best thing is, I think, the system of censorship, urged upon this Association at its last meeting by the faculty of the college, and again embodied in the proposed new constitution this year. I take this action of the faculty as in good faith, an exponent of their desire to hedge in the access to our ranks by all legitimate and practicable means.

Mr. President: In weighing the actions of men, we must—to be just—keep two things in view, viz: The effect of their actions upon the world, and the motives which prompt them. Were the effect of free lectures to be to throw down the barriers which raise our profession above a mere trade, to render examinations lax, and diplomas less honorable—to tempt into our ranks men unqualified by

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nature and cultivation for its high and holy duties—none would oppose the plan with more heartfelt earnestness than would I. But so far does this seem from being the natural tendency of this system, that I think we may confidently expect a directly contrary result.

We remove mercenary motives entirely from the field, and hold up the *honor of teaching* in its stead, for what else can tempt these men to sacrifice time and labor, and devote themselves with energy and enthusiasm to their appointed tasks, save the honor and professional pride which one may justly feel who teaches successfully. *And success is all that brings honor.* To graduate a class of students unfitted to take rank with us in the profession, would be a disgrace. To lower the standard of education one iota would cast a stigma upon them and the college. On the contrary, to raise the standard —to make the diploma of the college a patent of merit, to send her young men into the world proud to say that the Alabama Medical College is their *Alma Mater*, and of whom they in turn may be proud, reflects the highest credit upon the faculty of the college, and I have faith to believe that such would be the views of the great majority of medical teachers. Why do our great men in medicine and surgery devote their time and talents in the laborious duties of the hospital, without remuneration, in our great metropolitan centres, and bring to bear in their labors all the energy and enthusiasm of their natures? It can be none less than the generous spirit of emulation which every true and strong man feels, and the love of honor which duties well fulfilled always brings. Will a less honorable motive influence a true man in the responsible position of a teacher in medicine?

By abrogating the system of fees, lesser motives are put aside. On the contrary, where the professors in our colleges are paid from the fees received, and the amount of salary depends upon the number of students and graduates, do we not tempt poor human nature to a less rigorous discipline, and a less exalted standard of qualifications in those who are candidates for the degree? This last has always been one of the greatest stumbling blocks in the way of elevating the standard of medical education, with which our profession has had to contend.

It is true that the laborer is worthy of his hire, and I do not object to a fair remuneration to college professors, provided it be not made to depend upon the number of students and graduates. But where the college is not endowed so as to furnish a fixed salary for its teachers, nor is under the patronage of the State which pays them, I would infinitely prefer to see them do as our friends here have done, work for nothing but the honor of it, and the proud consciousness of duties well performed.

But there is another aspect of the case. In the divine economy, *brains are sometimes given to poor men*, and the aspirations of tal-

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ent and genius move in their bosoms and control their lives, the same as with the more favored sons of earth. Shall we say to these young men, you can have no help from us in working out a glorious future? Shall we bid them labor with their hands that their brains may thrive and add to the toils of a student's life the constant harrassing care for wages and means wherewith to pay for tuition? Particularly does this aspect of the question have force in all our Southern States. Our people are impoverished, our young men—many of them—would feel the burden of every additional hundred dollars which an education would cost them. They are ambitious, they look to our profession, with its honors, with longing eyes; they would add to its honors, and its usefulness; and I am glad, gentlemen, glad that these professional brethren, the faculty of the Alabama Medical College, have had the large heartedness to say to these young men, come to us, we will extend the helping hand—we will, as much as in us lies, lift the burthen from your shoulders while you give every energy of mind and body to the tasks of student life—only asking of you in return that you so use these advantages that we may feel proud of you as graduates and members of our loved profession. In this generous action I bid them God speed, and I trust that the time is not far distant when Alabama will feel as proud of her Medical College as Virginia does of the Medical Department of her University. Nor do I think that the time is far distant when free medical education will be the rule in our land.

Mr. President: A few words regarding the American Medical Association, and I have done. Reference has been made to it as having taken decisive action against cheap medical education. I was present at the meeting in New Orleans in 1869, and again in Washington in 1870, and listened attentively to the discussions on medical education. It seemed strange to me, in listening thereto, that the price charged for lectures should be made the criterion of merit in our colleges. Yet such seemed to be the burden of several speeches to which I listened. And yet it was not so much the fact as that the competition between colleges led to a cheap rate for tuition, and a lax examination, and too easy graduation, so as to tempt students to their halls. This we all acknowledge to be an evil. But this is just what the Alabama Medical College has avoided. It has left out the question of fees, for they charge none, and as the Faculty work for the honor of teaching, we may well trust them to make it honorable.

But the gentleman was mistaken in saying that the voice of that Association was decidedly against cheap education. It is true that in 1869 a resolution was passed fixing the minimum price of lectures at $120. But in 1870 a motion to fix the price for tuition failed, and was laid on the table. Dr. N. S. Davis, of Chicago, who wields more influence in that Association than almost any other man, and

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who may be justly considered as the head and front of the movement for an advanced culture in our profession, opposed it. He thought that the colleges should be left to regulate their own fees, or if the Association wished to fix a price for them, first let it fix the requirements for graduation. First say what the work to be done must be, then, if they will, fix the price. The American Medical Association, therefore, stands to-day uncommitted to any theory for the advancement of medical education. The action of 1870 rescinds that of 1869.

ADDRESS OF DR. JEROME COCHRAN.

Mr. President:—I have a few words to say on the protest of the Montgomery Medical and Surgical Society against the action of the Faculty of the Medical College of Alabama in abolishing fees for lectures; and on the proposition which has been made to enter that protest on the minutes of the proceedings of the Medical Association of the State. It is not my intention to deal in personalities; nor in any way to assail the motives of the authors of this protest, although there has certainly been provocation enough to excuse a great deal of warmth of feeling on the part of the friends of the college. Be this, however, as it may, it is more in accordance with my inclinations, and with the objects which I have in view, to discuss the question calmly, logically, dispassionately, and on its merits. And I do this all the more confidently because I know that in order to vindicate the college from all blame in the estimation of this assemblage of intelligent and fair-minded physicians, and in the estimation of the entire profession throughout the State, nothing is more necessary than to lay before them plainly and fully the simple facts of the case, together with the ethical and other principles which may be involved in it.

The facts in the case may be very briefly told. About the beginning of last summer the faculty of the college, moved thereto by what seemed to them to be good and sufficient reasons, determined to make their lectures free, and announced this determination, for the benefit of all concerned, in their annual circular.

Very soon after the Montgomery Medical and Surgical Society fulminated against us the protest which is now under consideration. And now the representatives of that society come before the Medical Association of the State with the extraordinary request that their protest be entered on our minutes.

In support of the position assumed in the protest of his society, Dr. Weatherly has read before us a long and carefully prepared paper, to which I am sure we have all listened with profound attention. I at least have not allowed a single word of it to escape me, and I am very glad to be able to say that at least nine-tenths of it

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meets with my hearty concurrence. With all that he says about the defect of the system of medical instruction obtaining in this country—with all that he says about the shameful facility with which the honors of the profession are conferred upon ignorant and incompetent men—with all that he says about the superiority of the medical schools of Great Britain and continental Europe, and with all that he says about our professional demoralization and the necessity of professional reform—with all these things I have no fault to find. He cannot regret and reprobate these things more than I do, and I promise him that in every conflict which is waged against these evils he shall find me standing with him shoulder to shoulder, seeking always the thickest of the fight, where the blows fall fastest, and the hardest work is to be done.

But all this is entirely alien to the question at issue between the Montgomery Medical and Surgical Society and the Medical College of Alabama, of which last institution I have the honor, as you know, to be an unworthy member. That the state of medical education in this country is not what it ought to be in order to ensure the proper qualification of medical men, is a lamentable fact which all of us know and all of us regret—a fact indeed which has been recognized for many years as the opprobrium of the profession. But for this state of affairs, not devoutly to be wished, the Medical College of Alabama is in no way responsible. On the contrary I am proud to be able to say that our faculty has taken the lead in every movement looking to the advance to greater dignity and honor of the profession of the State. Our record indeed is in this respect a most enviable one, and I do not hesitate to say that we have taken a higher and a more unselfish position than was ever taken by any other college faculty. Not to go further back it will be remembered by many of the gentlemen who honor me with their attention to-day that at the meeting of this Association in Montgomery last year, I introduced a series of resolutions and made an address on this *questio vexata* of medical education, in which, after reviewing our present college system in the strongest words which I was able to command, I made a proposition in the name and behalf of the faculty of the college to give up the privilege of examining our own students for the degree of doctor of medicine, to forego for the benefit of the profession the privilege, so dear to every medical school, of conferring diplomas carrying with them, by the laws of the land, the right to practice medicine and collect fees, and to place the whole matter of admission into the profession and into the enjoyment of professional honors and privileges in the hands of the profession itself, under the special direction of a board of censors, to be appointed for the purpose by this Association. Does such conduct as this, Mr. President, justify the suspicion that the faculty of the college are a set of men likely to lend themselves to any scheme of personal degradation? Verily, verily, I should

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think not. Why, sir, when I first presented the plan to my colleagues for their consideration, they looked upon me as a dreamer, better fitted to live in Utopia than in this common-place world where the almighty dollar is so devoutly worshipped, and where the most approved principle of action seems to be that every man should take care of himself without caring very greatly what becomes of his neighbor. In the end, however, they came to the conclusion that in the fundamental principles of my scheme there was something worthy of encouragement, and authorized me to bring it before the State Association. What sort of reception did it meet at the hands of this body, Mr. President? It seemed to fall still-born. No man thought it worth while to waste upon it a single word of sympathy. It did not even provoke so much notice as to be honored with a breath of reprobation. And yet I am sure I have not labored in vain. The thoughts that I have uttered will be as bread cast upon the waters to be gathered after many days; or, as seed sown upon good ground which will spring up and bear fruit some fifty, some sixty, and some an hundred fold.

Indeed, I have abundant reason to know that my ideas are making progress. I had the honor, on yesterday, to submit my plan a second time to the consideration of this Association, in the carefully elaborated form of a draft for a new constitution; and, although it met with some opposition, it evidently has friends who are resolved that it shall have a fair showing; and I think I venture but little in making the prediction that the very able committee to whom it has been referred will make such a report upon it as will secure its adoption at our next session. But this is something of a digression. Let us come back to the Montgomery protest, and see how it will bear confrontation with a little logic and a few facts. The whole substance of the protest may be expressed in two propositions, namely;

1. That high college fees are guarantees of collegiate respectability, while low fees, or no fees at all, necessarily imply collegiate degradation.

2. That the American Medical Profession has the right, through its State and National Associations, to regulate the fees of American Medical Colleges.

I deny both propositions. In order that we may have a proper understanding of the matter let us glance at our medical history. Medical colleges in this country have always been conducted on the ordinary principles of political economy and commercial competion, and with a view to the pecuniary advantage of medical teachers. In a very large majority of instances the colleges have been built by private enterprise; and with the exception of a very small number connected with State institutions, the salaries of the professors have been derived from the fees paid by students. Philadelphia, at first, had a monopoly of the business, and she very

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naturally charged remunerative prices. New York, New Orleans, and other cities of large population and many incidental advantages, next entered the list; and, as the field was large and the gleaners few there was no need that they should reduce the fees. But after awhile interior towns without so many incidental inducements, and without the prestige of the great tide-water cities, became ambitious to have medical colleges of their own, and went to work to accomplish their wishes, according to the most approved methods of political economy, commercial competition, and the venerable law of supply and demand. The process was simple enough. It was only necessary to form a company of seven or eight doctors, build a big brick house, and apply to an ignorant legislature for a charter, and, lo! the thing was done. Full fledged professors grew up in a night like Jonah's gourd; diplomas in high sounding Latin and on excellent sheepskin could be ordered by the thousand, and the only thing left to do was to get students. But students they must have or perish. And so, still in the spirit of our much lauded political economy—and, I dare to say also, in full harmony with the spirit of modern progress and civilization, and the declaration of independence, *et id omne genus*, they fell upon the happy device of seeking to attract students by appealing to their cupidity or poverty by low prices. I have not inquired very curiously into the history of this movement. Most probably it began in the interior of New England. For example, there is a cheap medical college at Berkshire, in the good State of Massachusetts. But it is in the Northwest and West that the movement has attracted most attention; and they have low fees now at Chicago, at Ann Harbor, at Cincinnati, at Louisville, at Nashville, at Memphis, and at more places besides than I have patience to call the names of.

At first the matter attracted very little attention, but year by year these cheap colleges multiplied apace, and drew continually larger and larger numbers of students from the schools of the great cities, and so diminished the incomes of their professors. Then the movement began to assume importance. The professors of the schools in the great tide-water cities began to talk sneeringly of cheap schools, and of the un-ethical nature of low fees; and they have ventilated these views through the medium of the widely circulated medical periodicals which they have been able to control, and through the American Medical Association, in which they have occupied high positions, until they have imposed on an immense number of well-meaning professional men. Indeed, they have labored so assiduously in this cause, and have spent in it so much virtuous indignation and righteous rhetoric, that almost the entire profession has been led astray. Now is the whole ear of Denmark by this report rankly abused. And for what? For the elevation and purification of the medical profession? Alas! no. The leading incentive has been, in saddest truth, the desire of private gain. If

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these gentlemen were so anxious for the elevation and dignity of the profession why have they not shown their zeal by the adoption of a better system of medical instruction, and a higher standard of acquirements for the degree of Doctor of Medicine? Convention after convention of medical teachers has been held, the last in Washington, last May, and all that has come of them is a few recommendations and resolutions, full of sound and fury, but signifying nothing —recommendations and resolutions which have been forgotten by the very authors of them before the ink was dry with which they were written. The whole thing, to a man who has been behind the scenes and knows how the thunder is made, is ridiculous and disgusting. Rub civet on the thought, good apothecary.

Now, sir, to show how inconsistently men can act in matters of such grave importance, allow me to mention a few facts of directly personal application. I was in New Orleans at the meeting of the Americal Medical Association in 1869, when that famous resolution was passed recommending one hundred and twenty dollars as the minimum charge for a course of lectures. It was introduced, together with a long preamble, by Dr. Gaillard, of Louisville. Now Dr. Gaillard is doubtless a high-toned and honorable man. Besides, he is a brave man, and lost an arm in the cause of the Confederate States. Far be it from me, therefore, to utter any reflections against him. But his public acts may be brought into court without impropriety. Well, Dr. Gaillard went back to Louisville and organized a new college and issued a circular which I read in the Louisville Journal. In the circular which was issued before the echoes of his invectives against cheap schools had ceased to reverberate along the streets of the Crescent City, he announced, indeed, that the price of a course of tickets should be one hundred and twenty dollars. But he made some most extraordinary and significant exceptions. In the first place he announced that all students who were the sons of physicians would be received without charge. This he did under the pretended sanction of the Hippocratic oath. Now it so happens that I have read the Hippocratic oath as well as Dr. Gaillard, and I have failed to find in it any such clause as Dr. Gaillard refers to. I find, indeed, a clause to this effect, namely: "I hold myself bound to impart the art of medicine, without charge, to the children of my preceptor." This I find, but this is a very different thing from the wholesale charity advertised by Dr. Gaillard. But the end is not yet. Not even this heavy draught is sufficient to exhaust Dr. Gaillard's abounding benevolence; but he offers in addition a free scholarship to every congressional district in the whole nation, calling to mind the famous passage,

> No pent up Utica contracts our powers,
> But the whole boundless continent is ours.

But Dr. Gaillard has an eye to business as well as benevolence, and he does not content himself with the simple announcement

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which I have mentioned, but he places the congressional scholarships under the patronage of the representatives of the respective districts; and he takes care to send a very imposing document, decked out in all the glittering array of fancy letters and red seals, to each of these aforesaid congressmen, whereupon each patriotic gentleman feels specially complimented, and, having it in his power to do a graceful act, determines to do it gracefully. So in a few days out comes an advertisement in one or more papers of his district magnifying the excellence of Dr. Gaillard's school, and stating how applications for the important scholarship should be addressed. I want it distinctly understood that I am not drawing on my imagination for my facts. I not only read Dr. Gaillard's advertisement in the Louisville Journal, but I have seen one of these documents with the fancy letters and the red seals, which had been sent to one Buck, by the grace of the reconstruction laws and the aid of negro votes, member of congress for this district; and I have read an advertisement of the sort I have mentioned in the carpet-bag newspaper, published in this city.

Now, sir, it seems to me that this makes a free list of somewhat formidable dimensions to be offered by a school organized under the special supervision of a man who has made such a fuss about college fees as Dr. Gaillard has. Just look at it for a moment: all the sons of all the physicians in the land, *plus* one additional student for each congressional district, from the Atlantic to the Pacific, and from the British Possessions to the Gulf of Mexico.

In the New Orleans meeting, next after Dr. Gaillard, no one took more interest in this matter, or made more or more forcible speeches upon it, than my old friend and respected teacher, Prof. Eve. Well, only one year afterwards, Nashville was forced to reduce her fees for a course of lectures to fifty dollars. Soon after she offered a place in her faculty to Prof. Eve. Here was a test case—an admirable opportunity for furnishing an example of faithful adherence to principle. Here, in a word, was a chair in a cheap college, offered to the great advocate of high fees. Of course, Prof. Eve respectfully declined to be contaminated by any such questionable association. Not a bit of it, Mr. President. He quietly accepted the Professorship which was offered him, low fees, un-ethical practices, and all; and if he has indulged in any more declamations against cheap colleges, I have not heard of it.

But, Mr. President, not to dwell at any greater length on matters of personal detail, the most significant fact in relation to our American medical colleges is this, that nearly all of these institutions are conducted as private speculations, with a view to the pecuniary emolument of their professors. They are but slightly responsible to the State, even if the State had, as most emphatically it has not, any organ which could take proper cognizance of them, and form some just estimate of their excellencies and of their defects.

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Neither are they under the control of the medical profession, which would seem to be the proper authority to arrange for them the plan of medical instruction, and to give direction to their general policy. In a word, they are a law unto themselves, and are only amenable to public, and to professional opinion in an indefinite and general sort of way. That the medical education conferred by the operation of such a system is not of the highest character is not to be wondered at. The true wonder, indeed, is that affairs medical are not in a worse condition than they are. Still, in all conscience, they are bad enough—have been bad enough for years, and are yearly growing worse.

But what is to be done? It was to oppose this constantly advancing tide of professional demoralization that the American Medical Association was organized nearly a quarter of a century ago. This association commenced the work which it had set itself to do by making certain recommendations to the faculties of the colleges, advising longer sessions, better facilities for instruction, and a higher standard for graduation. The college faculties listened with respectful attention, joined dutifully in the general chorus of admiration with which a long suffering profession received the promise of better times, and, then went quietly on in the old beaten paths which they were accustomed to tread. Finding, after a few years, that recommendations and exhortations were not prolific of the good fruit of reform which they had been expected to produce, the association began to inquire if it was not possible to do something else, but the more the matter was examined, the more it was seen that the association and the profession which it represented, were entirely powerless to interfere directly with the management of the colleges. Again and again it has been decided that the powers of the association are simply advisory, and not to any extent nor in any way whatever compulsory. And the association, like the great lubberly good-natured monster which it is, has blundered along, uttering in one form or another, a great deal of good advice, but accomplishing precious little in the way of substantial progress, presenting, indeed, to the eyes of an admiring world a very notable example of a thorough proficiency in the great modern accomplishment of how not to do it. So it was that the New Orleans resolution, fixing one hundred and twenty dollars as the minimum cost of a course of tickets, was advisory, and not mandatory. And, like most other advice which is given without being sought, nobody at all paid any attention to it, and it has already passed

> Out of the ages of worldly weather,
> Forgotten of all men altogether.

At Washington, last May, a higher game was attempted. Perhaps the medical wisdom assembled there was infected by the bad moral influences of the place, and the contagion of congressional example. At any rate some doctor from the great State of Texas offered there a memorable pair of resolutions:

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Resolved, That the American Medical Association has the right to fix the fees of medical colleges.

Resolved, That if any college charge less than one hundred dollars for a full course of lectures, the professors and graduates of such college shall be denied membership in this association.

Now, I confess that I should admire the coolness and audacity of these resolutions, only that it happens that they are not original. It is related of some of the early settlers, in some part of New England, puritans, perhaps, who came over in the Mayflower, that on one occasion they held a public meeting, and resolved as follows:

First—That the earth is the Lord's and the fullness thereof.

Secondly—That the Lord has made the earth for His saints.

Thirdly—That we are the saints.

But notwithstanding the evident want of originality in our Texas doctor, and of lawful jurisdiction in the association, the resolutions were adopted in our monster association's usual indolent and amiable way. They were not allowed, however, to stay adopted. Dave Yandell, who runs a cheap school at Louisville, moved a reconsideration, which was had, and the whole thing ignominiously laid on the table, where it is to be hoped it will be allowed to remain. I should like to know, Mr. President, by what authority the American Medical Profession, or the American Medical Association, have undertaken to poke their noses into the private affairs of the colleges. Do the colleges belong to them? Have they invested their dollars in college stock? I trow not, sir, and I must be allowed to add that it seems to me to be an immense stretch of audacity for them to seek in this way to meddle with property that belongs to other people.

But if the medical profession have no right of control over the medical colleges, there is one thing, at least, which they can control, and which they ought to control, and that is the terms of admission into their own ranks. This is not simply a privilege, but a most solemn and important duty; and I undertake to say that when the profession discharges this duty as it ought to be done, we will hear no more complaint of the short-comings of colleges—no more complaint of low fees—no more complaint of incompetent and ignorant doctors. How this is to be done, I have already indicated in my system of censorship, and will not dwell upon it now. It is a matter of very small importance whether the colleges charge much or little for the instruction of students; but whether the instruction given is what it ought to be, is a matter of very great importance. It matters very little how any man who applies for a place in the medical profession has contrived to obtain his medical knowledge; but the question above every other question, before he is admitted to professional brotherhood and recognition is this: Has he got the medical knowledge he lays claim to in adequate amount, and of proper quality? Let this receive favorable answer, and it is hardly

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necessary to ask whether he has ever seen a college or not. If he comes arrayed in the panoply of our science, he has his wedding garment on, and the lord of the feast must open the door and let him in.

Now, Mr. President, will high fees secure the fullness of knowledge, and the high qualifications which we ought to insist upon? To ask such a question is to answer it.

There are several special points in Dr. Weatherly's address which I would like to notice, but my remarks have already occupied too much of your time. I must say, however, that I cannot see the difference in principle between free common education and free professional education, upon which the doctor lays so much stress. On the contrary, I see very clearly that every argument that can be urged in the one case can be applied also, and with equal propriety, to the other. It is not necessary, he says, that every man should be made a doctor. Certainly not, and the advocates of free medical education have never pretended that it was. There is no danger of any great over-supply of doctors under any circumstances. The inexorable laws and practices of supply and demand will very effectually regulate any trouble of that sort. Do not understand me, Mr. President, to be an advocate of free medical education at all. I am not certain that I am in favor of free common schools even. There is, at any rate, something to be said on both sides of the question. But I do undertake to say that every reason which can be adduced in favor of free common school education, applies with even greater force to professional education; that the higher education is both more in need and more deserving of aid than the lower. How is it, then, I think I hear everybody exclaim, that you have taken the lead in making the Medical College of Alabama a free school? It is a question which admits of easy answer. I find myself a member of the faculty of the college, and obliged to take some part in the management of it. I appreciate fully the deplorable college system which I have attempted to describe. I do not like it, but I am powerless to change it. The colleges in the great West have charged low fees for years. Of late the contagion has spread with fearful rapidity. Louisville had come down rather than see her students drawn off to Cincinnati. Nashville had pleaded almost with tears in her eyes, for a better system, and failing to obtain it, she also had reduced her fees, and Memphis had followed her example. What, under the circumstances, was Mobile to do? There was only one thing left that she could do, and that was to bring down her prices also, and she did it. And I dare to say, Mr. President, in the face of men and angels, that she did right, and I am willing, nay I am proud, to shoulder my share of the responsibility. Not that I would not like to be paid for teaching. I would like it exceedingly well, but, under the circumstances, that is simply impossible, and so—not that I love Cæsar less, but that I

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love Rome more—I make a virtue of necessity, and accept the situation. And I do this, sir, with all the better grace, because I know that the sun shines on the other side of the cloud, and that in some way future good will be brought out of this present evil. There is at least one good thing that will grow out of this cut-throat competition between the colleges, and that is this: It will prevent their rapid multiplication, and reduce their numbers. Only those that have some real strength will survive the ordeal, and emerge from the conflict chanting hymns of triumph.

The conclusion then of the whole matter is this: The faculty of the Medical College of Alabama, in establishing a system of free medical lectures, have violated no rule of professional ethics, either express or implied; have not even violated any ancient and established custom of the profession; have done nothing to lower the standard of professional qualifications; have done nothing to flood the land with incompetent doctors; in a word, have done nothing which they did not have the perfect right to do. For which one of our virtues then are we to be condemned?

During the progress of the debate, speeches were made by Dr J. M. Williams and Dr. J. S. Weatherly, both disclaiming any personal feeling against the faculty of the college, and asserting that their opposition to the free system was the result of thorough conviction, and with no other motive than anxiety for the honor and dignity of the profession.

A written essay on the subject of college fees, by Dr. B. H. Riggs, of Selma, was presented to the association by Dr. Michel. The secretary inquired if it was the will of the association that it should be read. Dr. Ketchum desired to know if the reading of the paper conferred upon it the privilege of publication in the transactions, stating at the same time that he had no objection to the publication of papers inimical to the college, provided the friends of the college were allowed to reduce their arguments to writing so that they also might be published.

Dr. Cochran was in favor of the freest possible discussion, and hoped the paper would be read.

On motion, Dr. Riggs' essay was laid on the table.

The following gentlemen were announced as constituting the Nominating Committee; and it was also announced that the Committee would meet at the gentlemen's parlor of the Battle House, at 9 o'clock P. M.:

Autauga County.—Dr. C. A. Edwards.

Barbour County.—Dr. W. P. Copeland.

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Bibb County.—Dr. J. W. Crawford.
Butler County.—Dr. James Berney.
Clark County.—Dr. Wm. Stump Forwood.
Conecuh County.—Dr. S. S. Forbes.
Colbert Connty.—Dr. Wm. Desprez.
Dallas County.—Dr. L. E. Locke.
Elmore County.—Dr. L. S. Green.
Green Couniy.—Dr. John S. Merriwether.
Hale County.—Dr. T. C. Osborne.
Jefferson County.—Dr. M. H. Jordan.
Lawrence County.—Dr. G. E. Kumpé.
Lee County.—Dr. J. H. Drake.
Macon County.—Dr. E. B. Johnson.
Mobile County.—Dr. J. F. Heustis.
Montgomery County.—Dr. J. M. Williams.
Perry County.—Dr. Wm. A. Bradfield.
Pickens County.—Dr. A. W. Agnew.
Sumter County.—Dr. J. M. Godfrey.
Wilcox County.—Dr. John S. Lynch.

On motion, the Association adjourned until 10 o'clock to-morrow.

THIRD DAY.—*March 23d.*

The Association met in Franklin Hall and was called to order by the Vice-President, Dr. E. D. McDaniel. It was decided to go on with the consideration of the motion of Dr. Williams, to spread the protest of the Medical and Surgical Society of Montgomery on the minutes of the Association.

Dr. Jerome Cochran stated that he could not see upon what grounds the Medical Association of the State could be expected to record in its minutes the action of a county society. It seemed to him that the proper place in which to keep the record of the action of any society was in its own minutes, and not in the minutes of another body. The Medical Association of the State of Alabama had not been asked to endorse the protest of the Montgomery Society, but simply to give it a place in their Transactions. He thought that too much of the time of the association had been consumed in the discussion of this matter, and he, therefore, moved that the motion be laid upon the table.

The ayes and nays were demanded by Dr. Weatherly.

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Dr. James Douglas asked to be excused from voting. He was opposed to the protest, and would not like to vote to sustain it. At the same time, he had been instructed by his Society to favor the protest, and on that account did not feel at liberty to oppose it. Dr. Douglas was excused.

Dr. W. C. Jackson asked leave to make an explanation. He belonged to the same delegation as Dr. Douglas, and was hampered by the same instructions. There was, however, in his society, a large minority opposed to this protest. He sympathized with this minority, and felt that he represented them and would be sustained by them. He should, therefore, vote to lay on the table.

The vote was then taken, with the following result:

Ayes: Drs. L. S. Green, W. A. Bradfield, E. D. McDaniel, M. H. Jordan, G. T. Deason, R. N. Hawkins, E. B. Johnson, G. E. Kumpé, Wm. Desprez, R. D. Webb, J. M. Godfrey, A. W. Agnew, W. C. Jackson, S. S. Forbes, A. A. McKittrick, J. H. Drake, J. S. Merriwether, L. E. Locke, W. P. Copeland, C. A. Edwards, E. H. Fournier, J. F. Heustis, C. Toxey, G. Owen, G. A. Moses, J. T. Gilmore, S. D. Seelye, E. P. Gaines, J. W. Crawford, J. D. Caldwell.—30.

Nays: Drs. J. C. Harris, Jno. S. Lynch, J. M. Williams, T. A. Means, J. S. Weatherly, J. A. Fremon, T. C. Osborn, James Berney, J. Paul Jones.—9.

The Committee on the President's Address made their report, as follows:

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

Your Committee, to whom the President's Address was referred, after careful examination, beg leave to report that the clause in relation to cash payments meets their approval; and that they advise that the Association recommend that local societies, and the profession at large in the State, adopt and enforce the practice.

Inasmuch as medical men are not remunerated commensurately with their services as medical witnesses before courts of justice, we recommend the adoption of some measure by the Association whereby a liberal remuneration shall be recognized and granted.

With regard to that portion of the Address relating to life assurance, we recommend that the association petition the State Legislature to have the license tax on physicians set apart as a fund to be applied under direction of the association, to the insurance of the lives of its members for the benefit of their families, in consideration of the vast amount of gratuitous service rendered by them in the discharge of their vocations.

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In reference to pauper practice, we recommend the adoption of county hospitals; and in cases where this object cannot be accomplished, that suitable arrangements be made with the authorities to meet the demands.

All of which is respectfully submitted.

T. C. OSBORN,
L. E. LOCKE,
WM. A. COCHRAN,
Committee.

On motion, the report was approved, and the committee discharged.

On motion, a committee of three was appointed to memorialize the Legislature of the State in behalf of the measures recommended.

Committee: Dr. James M. Williams, Dr. J. S. Weatherly, and Dr. L. E. Locke.

The Secretary then read an amendment to the Constitution, prepared by Dr. W. S. Forwood, as follows:

WHEREAS, This Association, as now organized, exclusively requires its delegates and permanent members to contribute monied assessments to its support, which, in consideration of their absence from their duties at home, and the expenses incident to their attendance at the meetings, is manifestly onerous and unjust, therefore be it

Resolved, That it be made obligatory upon every member of every subordinate society, in common with delegates and permanent members of the State Association, as a condition of the tenure of his membership, to contribute annually the sum of two dollars and fifty cents towards defraying the necessary expenses of the State Medical Association; and in return he shall be entitled to receive a copy of the annual transactions of the same.

And be it further resolved, That this preamble and these resolutions be submitted by the Secretary prior to the next meeting of this association, to the consideration of all the subordinate societies, and provided that the majority of those societies concur, then all sections of the Constitution of the State Association which may conflict with the same, shall be, and are hereby repealed.

On motion, the foregoing preamble and resolutions were referred to the committee appointed to consider the plan of organization which had been submitted by Dr. Jerome Cochran.

The next order of business was announced to be the reading of the regular reports on the diseases of the different counties of the State.

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On motion, it was

Resolved, That as the time remaining at the disposal of the Association is not sufficient for the reading of all the reports which have been prepared for this session, they shall be read by their titles, and submitted to the Publishing Committee; but if any report contains any points of special importance to which it is desired to call the special attention of the Association, such parts may be read as abstracts.

Under this resolution the roll of Standing Committees was called, in the alphabetical order of the counties, and the following papers submitted:

AUTAUGA COUNTY.

On the diseases of Prattville and vicinity, by S. P. Smith, M. D., of Prattville.

COLBERT COUNTY.

On the diseases of Tuscumbia and vicinity, by R. T. Abernethy, M. D., of Tuscumbia.

On Alabama Medical Necrology, by Wm. Desprez, M. R. C. S. London, of Tuscumbia.

CONECUH COUNTY.

On the diseases of Conecuh county, by S. S. Forbes, M. D., of Bellville.

DALLAS COUNTY.

On the diseases of Selma and vicinity, by C. J. Clark, M. D.

On the diseases of Orrville and vicinity, by Wm. A. Cochran, M. D., of Cambridge.

On Drunkenness and its Remedies, by B. H. Riggs, M. D., of Selma.

On the Explanation of the Malarial Poison, by Joseph A. Groves, M. D., of Liberty Hill.

ELMORE COUNTY.

On the diseases of Elmore county, by L. S. Green, M. D., of Wetumpka.

GREEN COUNTY.

On the diseases of the Fork of Green, by P. B. Miner, M. D., of Forkland.

HALE COUNTY.

On the diseases of Hale county, by T. C. Osborn, M. D., of Greensboro.

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Mobile County.

On diseases of Mobile county, by George A. Ketchum, M. D., of Mobile.

On Internal Urethrotomy, by C. H. Mastin, M. D,, of Mobile.

On the Endemics and Epidemics of Mobile, with special reference to their ætiology and prophylaxis, by Jerome Cochran, M. D., of Mobile.

On the Diseases of Women in Mobile, by E. P. Gaines, M. D., of Mobile.

On the Epidemic Diseases of Mobile for the first half of the year 1870, by Wm. H. Anderson, M. D., of Mobile.

Report of Case, with Physiological Explanations, by Wm. H. Anderson, M. D., of Mobile.

Trismus Nascentium, with Cases, by George A. Ketchum, M. D., of Mobile.

Montgomery County.

On the diseases of Montgomery and vicinity, by J. M. Williams, M. D., of Montgomery.

On the Surgery of Montgomery County, by J. S. Weatherly, M D., of Montgomery.

On some points in the Physiology and Pathological Anatomy of the Eye, by R. F. Michel, M. D., of Montgomery.

On diseases of Benton and vicinity, by Dunklin Pierce, M. D., of Benton.

Pickens County. On the Surgery of Pickens county, by A. W. Agnew, M. D., of Providence.

Wilcox County. On the Diseases of Wilcox county, by E. D. McDaniel, M. D., of Camden.

On the Surgery of Wilcox county, by J. Paul Jones, M. D., of Camden.

Portions of several of these papers were read before the Association. By special request, the whole of the following papers were read, namely: Dr. Ketchum's report on the diseases of Mobile; Dr. Weatherly's report on the Surgery of Montgomery; and Dr. Osborn's report on the diseases of Hale.

The allusion to chloral hydrate, with which Dr. Osborn's paper concludes, gave rise to an interesting discussion of the therapeutic properties of this medicine.

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Dr. J. M. Williams, of Montgomery, said that as it was coming into very general use, he would like to have the views of the members as to the conditions which indicated its use, and particularly since its reputation in *delirium tremens*, and other forms of drunkenness, had becomé so well established, that people were beginning to use it in such cases without medical advice, he would like to know under what circumstances it might be considered dangerous.

Dr. Desprez, of Tuscumbia, stated that he had used the medicine, and was well pleased with its action; that, however, he had seen it stated that in solution it soon underwent some chemical change which made it deleterious, and even dangerous, and that he would like to know the best method of keeping it in solution; that he had thought of dissolving it with glycerine, but had been informed that such mixture would be unsafe.

Dr. Osborn, in reply stated that he had been accustomed to use chloral very freely in his practice, and that for convenience of administration, as he practiced in the country, and was obliged to dispense his own drugs, he always carried a bottle containing chloral dissolved in water and syrup, and that although he had used this mixture two weeks after its preparation, he had not observed any disagreeable effects to follow its administration. He was satisfied that for all forms of simple nervous excitement and insomnia, it was the most prompt and efficient remedy known to the profession; and that while accidents had been reported as following its use, he must believe, from his own experience, that it was as safe as any other powerful medicine.

Dr. John S. Lynch, of Wilcox, said that he had given it to one patient in whom it produced no sedative effect, but seemed to act as a stimulant.

Dr. McDaniel, of Wilcox, related a case of meningitis, in which morphia, although given freely and relieving the pain, had failed to produce sleep. He then gave chloral, which caused the patient to sleep, but failed to relieve the pain, the patient complaining that she felt the pain even while sleeping. He then gave the two remedies in combination with the effect of fulfilling both indications at the same time, ease and sleep coming together under their joint influence.

Dr. F. A. Ross, of Mobile, said:

In reply to the question of Dr. Williams, I desire to state that I

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have used the hydrate of chloral in more than one hundred cases. As a hypnotic, I think that it has no equal, and the value of its uses for this purpose, can only be measured by the fact that it perfectly fills a want which has existed for all time in the practice of medicine. The sleep produced by it is easy, profound and natural. It lasts for several hours, and the patient awakes calm and refreshed. There is no nausea nor headache, and no nervous derangement. Although the sleep is profound, the patient can be easily aroused—will take food or medicine, and immediately relapse into slumber. Perhaps one of its most valuable qualities is the prompt and perfect control which it possesses over that hitherto frequently fatal disease, *delirium tremens*. It was in a case of this character that I first used it. I had sent to a German importing house in New York, for a sample, which was the first imported into this city. Three days previous to its arrival, I was called to treat a well-known citizen for an attack of *delirium tremens*. In spite of my utmost care and attention, the patient got continually worse. It was impossible to produce sleep. He struggled constantly with his nurses; saw all the horrible sights usual on such occasions, and his vital powers failed rapidly. On the third day he was covered with a cold, clammy sweat; had a very small, feeble pulse of 170; some difficulty or inability to swallow; and his friends were advised that the case was a hopeless one. Just at this moment (3 o'clock P. M.,) the chloral arrived, and I immediately gave him 30 grains, and left the same quantity to be given in two hours. I visited him at 6 P. M., and could hardly believe my own senses. He had been sleeping since the first dose, and I found him with a warm, pleasant skin, a quiet, steady natural pulse of 88. His sleep was as quiet and as natural as a child's. He awoke at 8, perfectly rational, took some broth, had another dose of chloral, slept all night, and the next morning was convalescent.

I have since had the same perfect success in two other cases. In fact, I consider the chloral as a perfectly sure remedy in this disease.

I have also used it in a great variety of painful diseases, and generally with decided benefit. There is a large class of disorders affecting the nervous system, from simple restlessness, or agitation, wakefulness, uneasiness, twitchings, and all those nameless symptoms which verge upon or pass into hysteria, in which this substance, especially when combined with valerian and lavender, affords great relief. I have found this combination invaluable in nervous palpitation of the heart, and I believe that even in organic diseases of this organ, it is beneficial by quieting the heart to some extent. In this class of cases, I use the remedy in ten grain doses, repeated at suitable intervals.

On motion of Dr. J. F. Heustis it was

Resolved, That a committee of three be appointed to memorialize the Legislature to purchase for the benefit of the State, to be

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used as a hospital for chronic and surgical diseases, the marine hospital in this city, which is now no longer required by the United States government.

Committee:—Drs. J. F. Heustis, J. S. Weatherly, Wm. O. Baldwin.

On motion, Dr. T. C. Osborn was added to the committee.

On motion of Dr. J. M. Williams it was

Resolved, That after the present session the association will not accept as a body or individually any entertainment at the hands of medical societies located at places selected for its annual meetings.

On motion, a committee consisting of Drs. J. F. Heustis, J. C. Harris, and E. D. McDaniel, was appointed to prepare a suitable tribute of respect to Dr. Robinson Miller, deceased, an old and active member of the association.

Dr. E. D. McDaniel offered the following:

Resolved, That the Medical Association of the State of Alabama believe that the government of the medical profession should be kept in the profession's own hands.

Resolved, That we are opposed to the establishment of national schools of medicine not wholly under the direction and control of the profession, as unnecessary and unwise.

Referred to committee consisting of Drs. E. D. McDaniel, G. A. Ketchum, and J. M. Williams.

The report of the Nominating Committee was received as follows:

The Committee on Nominations for Officers of the Association met at the Battle House, March 23d, Dr. J. F. Heustis, Chairman, Dr. J. M. Williams, Secretary.

The following nominations were made:

For President—Dr. T. C. Osborne.

1st Vice-President—Dr. G. E. Kumpé.

2nd Vice-President—Dr. Peter Bryce.

3d Vice-President—Dr. Goronwy Owen.

1st Recording Secretary—Dr. Jerome Cochran.

2d Recording Secretary—Dr. S. S. Forbes.

Corresponding Secretary—Dr. T. A. Means.

Treasurer—Dr. W. C. Jackson.

Orator—Dr. J. S. Weatherly.

Alternate Orator—Dr. R. D. Webb.

Valedictorian—Dr. G. T. Deason.

Alternate Valedictorian—Dr. W. P. Copeland.

Place of next meeting—Huntsville.

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On motion, the rule to elect by ballot was suspended, and the nominations unanimously confirmed.

The time of meeting was fixed for the last Tuesday in March.

A committee of three, consisting of Drs. Michel, Locke, and Moses, was appointed to conduct the President elect to the chair. He was welcomed to the post of honor and responsibility which had been conferred upon him by his fellow-members, by the retiring President, Dr. Ross, and spoke as follows:

DR. OSBORNE'S REPLY.

Fellows of the Association:

It affords me exquisite pleasure to thank you for the distinction your volunteer suffrages have conferred.

The fact is patent to every one, and I do not wish to disguise it, that personal considerations have nothing whatever to do with the selection made to-day.

Your preference in electing me to preside over your deliberations is due to the humble efforts I have made, through a series of years, in feeble contributions to the medical literature of the State, and to the desire I have ever manifested in maintaining the dignity of the profession; and most sincerely do I return you fervent thanks for the honor intended. Candor, however, compels me to acknowledge my innate unworthiness in the fulfillment of the honorable position which has been so generously tendered, and the only apology I can offer for accepting the duties thus imposed, is based upon the conviction that you feel assured of the motives which will actuate me in their performance, throwing the blame upon the head instead of the heart, and making in this way indulgent allowances for all the short-comings of my administrative capacity.

Twenty years ago I would have indulged exquisite vanity in the possession of such an incumbency; and even now I am by no means destitute of this feeling, but, as in later life it is natural to lose much of the relish for honorary distinctions, and as the loss thus sustained is replaced by maturer sentiments, I may rationally hope that its present enjoyment will be unalloyed by the ambition of earlier years, and that I shall be better enabled to concentrate my ideas and energies upon the advancement of the interest of the association.

Trusting confidently in your zeal for the profession, and hoping sincerely that the mantle which has so unexpectedly fallen upon my shoulders may not suffer in its tranfer from those of my distinquished predecessor, I assume cheerfully the labors it imposes, and shall spare no pains in preserving it untarnished for that rotation which must annually occur.

On motion of Dr. S. D. Seelye it was

Resolved, That in view of the valuable services to the association

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of the Secretary and of the Treasurer, their dues as permanent members be remitted, and their traveling expenses in attending the meetings of the association be paid from its treasury.

VOTE OF THANKS.

On motion of Dr. Michel it was

Resolved, That the thanks of this association be extended to the Mobile Medical Society for the admirable manner in which they have discharged the duties devolved upon them as a committee of arrangements, and for the generous hospitality which we have received at the hands of its members.

Resolved, That we appreciate the kindness extended to us by the invitation to visit the Medical College of Alabama, and the Mobile City Hospital, and the pleasure afforded us in accepting the same.

Resolved, That we thank the Franklin Society and the Board of Trade for the privilege accorded us of using their reading rooms.

Resolved, That we return our thanks to the retiring President for the able and impartial manner in which he has discharged the honorable and arduous duties of his office.

Resolved, That the thanks of this body be earnestly tendered to the Mobile & Ohio Railroad; the Mobile & Montgomery Railroad; the North & South Railroad; the Selma & Meridian Railroad; the Montgomery & Eufaula Railroad; the Memphis & Charleston Railroad, and the Selma, Rome & Dalton Railroad, for their liberality in allowing the members of the association to pass over their respective lines at half rates.

On motion, the association adjourned to meet in Huntsville on the last Tuesday in March, 1872.

STANDING COMMITTEES.

The following gentlemen have been appointed by the President Reporters on the diseases of the various counties, under the 4th section of article 4 of the constitution. Reports to be made to the next annual session.

AUTAUGA COUNTY.

On Diseases.—Dr. T. G. Howard, of Autaugaville.

On Surgery.—Dr. S. S. McKithan, of Prattville.

On Gynecology.—Dr. T. A. Davis, of Autaugaville.

On Indigenous Botany.—Dr. S. P. Smith, of Prattville.

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On Cerebro Spinal Fever.—Dr. Duncan McNeil, of Autaugaville.

BARBOUR COUNTY.

On Diseases.—Dr. W. H. Thornton, of Eufaula, continued.
On Surgery.—Dr. P. D. Baker, of Eufaula, continued.

BIBB COUNTY.

On Diseases.—Dr. James W. Crawford, of Centerville.
On Surgery.—Dr. J. H. Gunn, of Randolph.
On Gynecology.—Dr. S. E. Starr, of Randolph.

BULLOCK COUNTY.

On Diseases.—Dr. C. H. Franklin, of Union Springs.
On Surgery.—Dr. James M. Foster, of Union Springs.

BUTLER COUNTY.

On Diseases.—Dr. Joseph Harrison, of Greenville.
On Surgery.—Dr. Caleb B. Lampley, of Greenville.

CHAMBERS COUNTY.

On Diseases, Dr, —— Brown, of LaFayette.
On Surgery.—Dr. —— Bloodworth, of LaFayette.

CLARK COUNTY.

On Diseases.—Dr. Wm. Stump Forwood, of Gosport.
On Surgery.—Dr. B. S. Barnes, of Suggsville.

CONECUH COUNTY.

On Diseases.—Dr. S. S. Forbes, of Bellville.
On Surgery.—Dr. A. A. McKittrick, of Evergreen.

COLBERT COUNTY.

On Diseases.—Dr. Robert T. Abernathy, of Tuscumbia.
On Surgery.—Dr. Wm. Desprez, of Tuscumbia.

COOSA COUNTY.

On Diseases—Dr. James M. Leonard, of Nixburg.
On Surgery.—Dr. J. D. Kelly, of Bradford.
On Gynecology.—Dr. James A. Kelly, of Bradford.

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DALLAS COUNTY.

On Diseases.—Dr. C. F. Fahs, of Selma.
On Surgery.—Dr. A. S. Garnett, of Selma.
On Gynecology.—Dr. A. G. Mabry.

ELMORE COUNTY.

On Diseases.—Dr. L. S. Green, Wetumpka.
On Surgery.—Dr. E. Mason, of "
On Gynecology.—Dr. J. C. Harris, of "

FRANKLIN COUNTY.

On Diseases.—Dr. Daniel V. Sevier, of Frankfort.
On Surgery.—Dr. Lewis W. Desprez, of Russellville.

GREEN COUNTY.

On Diseases.—Dr. H. B. Robinson, of Forkland.
On Surgery.—Dr. Wm. Sanders, of ———.
On Gynecology.—Dr. H. T. Webb, of Eutaw.
On Sanitary Condition of Eutaw and Vicinity.—Dr. J. D. B. Morgan.

HALE COUNTY.

On Diseases.—Dr. Charles Wheelan, of Macon.
On Surgery.—Dr. James D. Osborn, of Greensboro.
On Gynecology.—Dr. F. M. Peterson, of Greensboro.

JACKSON COUNTY.

On Diseases.—Dr. W. B. Martin, of Scottsboro. Dr. —— Catroand, of Stephenson.

JEFFERSON COUNTY.

On Diseases.—Dr. M. H. Jordan, of Elyton.
On Surgery.—Dr. F. M. Prince, of "

LAUDERDALE COUNTY.

On Diseases.—Dr. James Kyle, of Florence.
On Surgery.—Dr. James W. Stewart, of Florence.

LAWRENCE COUNTY.

On Diseases.—Dr. Andrew J. Sykes, of Courtland.
On Surgery, Dr. F. S. McMahon, of "

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LEE COUNTY.

On Diseases.—Dr. L. W. Shepherd, of Opelika.
On Surgery.—Dr. J. B. Barnett, of "
On Gynecology.—Dr. A. W. McCoy, of "

LIMESTONE COUNTY.

On Diseases.—Dr. Thomas Thatch, of Mooresville.
On Surgery.—Dr. Thomas S. Malone, of Athens.

MACON COUNTY.

On Diseases.—Dr. W. F. Hodnett, of Tuskegee.
On Surgery and Gynecology.—Dr. E. B. Johnson, of Tuskegee.

MADISON COUNTY.

On Diseases.—Dr. Geo. D. Norris, of New Market.
On Surgery.—Dr. J. J. Dement, of Huntsville.

MARENGO COUNTY.

On Diseases and Obstetrics of Demopolis.—Dr. J. S. Ruffin, of Demopolis.

On Surgery and Gynecology of Demopolis.—Dr. E. H. C. Baily, of Demopolis.

On Diseases and Surgery of Spring Hill.—Dr. George Whitfield, of Spring Hill.

On Sanitary Condition of Linden.—Dr. J. M. Quinney, of Linden.
On Diseases of Dayton.—Dr. Charles C. Garrett, of Dayton.
On Surgery of Dayton.—Dr. Thomas C. Hill, of Dayton.

MARSHALL COUNTY.

On Diseases.- Dr. J. W. Farrell, of Guntersville.
On Surgery.—Dr. J. M. Jackson, of "

MOBILE COUNTY.

On Diseases.—Dr. G. A. Moses.
On Surgery.—Dr. J. T. Gilmore.
On Gynecology.—Dr. W. T. Webb.
On Sanitary Condition of Mobile.—Dr. William H. Anderson.
On Phthisis Pulmonalis.—Dr. E. P. Gaines.
On Diseases and Surgery of the Mobile City Hospital.—Dr. J. L. Collins. All of Mobile.

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MONTGOMERY COUNTY.

On Topography and Meteorology, and Diseases.—Dr. R. F. Michel.
On Surgery.— Dr. J. H. Blue.
On Gynecology.—Dr. J. S. Weatherly. All of Montgomery.

MONROE COUNTY.

On Diseases.—Dr. W. W. McMillan, of Monroeville.

MORGAN COUNTY.

On Diseases.—Dr. Lucius Minor, of Trinity Station.
On Surgery.—Dr. Benjamin Cross, of Decatur.

PERRY COUNTY.

On Diseases.—Dr. E. B. Thompson, of Marion.
On Surgery.—Dr. W. W. Wilkerson of "
On Gynecology.—Dr. J. C. Dozier, of "
On Sanitary Condition of Marion.—Dr. Wm. McAllister.

PICKENS COUNTY.

On Diseases.—Dr. Benjamin F. Wilson, of Pickensville.
On Surgery.—Dr. A. W. Agnew, of Providence.

SUMPTER COUNTY.

On Diseases.—Dr. R. D. Webb, of Livingston.
On Surgery.—Dr. E. H. Sholl, of Gainesville.
On Gynecology.—Dr. J. M. Godfrey, of Sumpterville.

TALLAPOOSA COUNTY.

On Diseases.—Dr. R. Jourdan, of Hackneyville.
On Surgery.—Dr. Wm. A. Mitchell, of Dadeville.
On Gynecology.—Dr. J. R. Rushin, of Tallassee.

TUSKALOOSA COUNTY.

On Diseases.—Dr. William A. Cochrane.
On Obstetrics and Gynecology.—Dr. Reuben Searcy.
On Surgery.—Dr. James Guild.
On Sanitary Condition of Tuskaloosa.—Dr. Wm. A. Leland.
On Insanity in Alabama.—Dr. Peter Bryce, continued. All of Tuskaloosa.

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TALLADEGA COUNTY.

On Diseases.—Dr. J. C. Knox, of Talladega.

On Surgery.—Dr. J. C. Blake, of Talladega.

On Deaf and Dumb in the State of Alabama.—Dr. James H. Johnson, of Talladega. All continued.

SPECIAL COMMITTEES.

To report at the next annual session.

Committee on Dr. Cochran's Plan of New Constitution.—Drs. George E. Kumpé, of Leighton; Edwards Mason, of Wetumpka; R. D. Webb, of Livingston; J. F. Johnston, of Montgomery; G. A. Moses, of Mobile.

Committee on Asylum for Inebriates and Opium Eaters.—Drs. Peter Bryce, of Tuskaloosa; J. S. Weatherly, of Montgomery; R. F. Michel of Montgomery.

Committee to prepare Memorial to the Legislature on the Recommendations of the President's Address.—Drs. James M. Williams, of Montgomery; J. S. Weatherly, of Montgomery; L. E. Locke, of Selma.

Committee to Memorialize the Legislature on the Purchase of the Marine Hospital.—Drs. J. F. Heustis, J. S. Weatherly, Wm. O. Baldwin, T. C. Osborn.

Committee to prepare Tribute of Respect to Dr. Robinson Miller.—Drs. J. F. Heustis, J. C. Harris, E. D. McDaniel.

Committee on National Medical College.—Drs. E. D. McDaniel, G. A. Ketchum, J. M. Willlams.

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PERMANENT MEMBERS.

Drs. William Henry Anderson, Mobile,
Peter Bryce, Tuskaloosa,
James Berney, Greenville,
Jerome Cochran, Mobile,
William Alexander Cochran, Orrville,
Solomon Sage Forbes, Evergreen,
James A. Fremon, Montgomery,
J. T. Gilmore, Mobile,
John Hodges, Auburn,
E. B. Johnson, Tuskegee,
W. C. Jackson, Montgomery,
John Foote Johnston, Montgomery,
George E. Kumpé, Leighton,
George A. Ketchum, Mobile,
John S. Lynch, Clifton,
E. Mason, Wetumpka,
T. A. Means, Montgomery,
R. F. Michel, Montgomery,
Albert G. Mabry, Selma,
E. D. McDaniel, Camden,
John B. McMillan, Evergreen,
A. A. McKittrick, Evergreen,
Samuel E. Norton, Montgomery,
T. C. Osborn, Greensboro,
F. M. Peterson, Greensboro,
F. A. Ross, Mobile,
W. P. Reese, Selma,
A. J. Reese, Orange Grove,
B. H. Riggs, Selma,
S. D. Seelye, Montgomery,
J. M. Williams, Montgomery,
J. S. Weatherly, Montgomery,
R. D. Webb, Livingston.

DELEGATES TO AMERICAN MEDICAL ASSOCIATION.

Drs. Moore, of Wetumpka,
J. S. Weatherly, of Montgomery.

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CATALOGUE

OF OFFICERS AND MEMBERS OF COUNTY MEDICAL SOCIETIES.

AUTAUGA COUNTY MEDICAL SOCIETY.

Drs. Duncan McNeill, President, Autaugaville,
Chas. Alva Edwards, Vice-President, Prattville,
Green Hill Thompson, Secretary, Autaugaville,
Alex. Dowling Mims, Treasurer, Prattville,
Archibald Smith McKeithen, Prattville,
Sam'l Parrish Smith, "
James Horatio Bowen, "
John J. Lamar, "
Dudley Robinson, "
Ben Franklin Davis, Autaugaville,
Thomas Ashbury Davis, "
John William Davis, "
Isaac Dickson Lanier, "
Thomas Greenwood Howard, Mulberry,
Charles Malone Howard, "
Virgil Josephus Smith, Greenville.

BARBOUR COUNTY MEDICAL SOCIETY.

Drs. John C. McNeil, President, Clayton,
J. C. Pope, Vice-President, Eufaula,
Wm. Henry Thornton, Treasurer, Eufaula,
Zadok Thornton, Secretary, "
Paul DeLacy Baker, "
Wm. Preston Copeland, "
James W. Drewry, "
W. E. Carter, "
S. A. Walkup, "
H. M. Weedon, "
J. B. Pouncey, Spring Hill,
W. S. Davis, " "
J. E. Crewes, " "
W. S. Swanson, Clayton,
M. Warren, "

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Barbour County—*(Continued.)*

Drs. J. S. Rumph, Clayton,
G. C. Reynolds, "
J. J. Winn, "
John A. Reynolds, Louisville,
E. M. Herron, "
W. U. Morton, "
T. Patterson, "
Wm. Hainey, Fort Browder.

BIBB COUNTY MEDICAL SOCIETY.

Drs. James W. Crawford, President, Centerville,
F. M. Sessions, Vice-President, Randolph,
S. E. Star, Secretary, Tyanus,
J. H. Gunn, Randolph,
— Gass, "

BULLOCK COUNTY MEDICAL SOCIETY.

Drs. James M. Foster, President, Union Springs,
James T. Warnock, Vice- President, " "
Charles H. Franklin, Secretary, " "
Frank B. Henderson, Treasurer, " "
N. P. Foster, Librarian, " "
Clement T. Fitzpatrick, Fitzpatrick Station,
Charles H. Jernigan, Enon,
James A. Hays, Union Springs,
Wm. K. Jones, " "

BUTLER COUNTY MEDICAL SOCIETY.

Drs. Thomas M. Bragg, President, Greenville,
Caleb B. Lampley, Vice-President, "
Joseph Harrison, Secretary, "
Clinton D. Palmer, "
Thomas J. Palmer, "
John Berney, "
James Berney, "
Wm. Walton, "
Cannon Jones, "
Henry M. Caldwell, "

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Clark County Medical Society.

Drs. Wm. Stump Forwood, President, Gosport,
B. S. Barnes, Vice-President, Suggsville,
Thomas B. Savage, Secretary, Jackson,
Alfred T. Bettis, Treasurer, Grove Hill,
Wm. M. Burroughs, " "
Bryan Burroughs, " "
George W. Files, Gosport,
Wm. W. McGowan, Jackson,
— Mobley, Choctaw Corner,
J. B. Jones, Suggsville.

Conecuh County Medical Society.

Drs. John B. McMillan, President, Evergreen,
Solomon Sage Forbes, Vice-President, Belleville,
Adam Alexander McKittrick, Secretary, Evergreen,
Eli Bradley, Bellville,
Charles T. Talliafero, Evergreen,
John Absalom McCreary, "

Dallas County Medical Society.

Drs. Joseph A. Groves, President, Liberty Hill,
Wm. Alexander Cochran, 1st Vice President, Cambridge,
James A. Ward, 2d Vice-President, "
James Kent, 3d Vice President, Selma,
John P. Furniss, Recording Secretary, Selma,
A. A. Allston, Corresponding Secretary, Orrville,
Robt. A. Bonner, Treasurer, "

Dallas County—*Selma Medical Society.*

Drs. Charles F. Fahs, President, Selma,
Benjamin Hogan Riggs, Vice-President, Selma,
John. P. Furniss, Secretary, "
Herbert S. Hudson, Treasurer and Lib'n, "
Albert Gallatin Mabry, "
Walter P. Reese, "
Augustus J. Reese, "
Courtney J. Clark, "
James Kent, "
Leonard E. Locke, "
A. S. Garnett, "
J. T. West, "
Clifford D. Parke, "

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DALLAS COUNTY—*Orrville Medical Society.*

Drs. Lemuel L. Allston, President, Orrville,
Robert M. Cochran, Vice President, "
James J. Hall, Secretary, Cambridge,
Thomas H. Bonner, Treasurer, Orrville,
Alfred A. Allston, "
Joseph A. Groves, Liberty Hill,
Wm. A. Cochran, Cambridge,
Thomas Hunter, Cahaba,
Edward M. Vasser, "
W. H. Jones, Bellvue.

ELMORE COUNTY MEDICAL SOCIETY.

Drs. James Crawford Harris, President, Wetumpka,
James R. Rushin, Vice-President, Tallassee,
Merriwether Gaines Moore, Treasurer, Wetumpka,
Edmunds Mason, Corresponding Secretary, "
Lorenzo Sidney Green, Recording Secretary, "
M. L. Feilder, "
A. L. Warren, "
Philip Fitzpatrick, "
Duncan S. Patterson, Brookville,
James A. Kelly, (of Coosa county) Bradford,
Joseph M. Leonard, (of Coosa county) Nixbury.

GREEN COUNTY MEDICAL SOCIETY.

Drs. Henry T. Webb, President, Eutaw,
Henry Saunders, Vice-President, Clinton,
W. T. Pierce, Secretary, Eutaw,
Jno. S. Merriwether, Treasurer, Eutaw,
R. O. Perrin, "
J. D. B. Morgan, "
Isaac Pierson, "
— Murphy, Springfield,
— Pyles, Clinton,
— Glissman, Forkland,
H. B. Robinson, "
— Jolly, Mt. Hebron.

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HALE COUNTY—*Greensboro Medical Society.*

Drs. J. H. Parrish, President, Talladega,
Frances M. Peterson, Vice-President, Greensboro,
James Dorrah Osborn, Secretary, "
Thomas R. Ward, Treasurer, "
Thomas Childress Osborn, "
Elisha Young, "
Wright H. Lavender, "
William C. Avery, "
Charles Wheelan, Macon.

AUXILIARY MEMBERS.

Prof. N. T. Lupton, Chemist, Greensboro,
S. W. Gillespie, Pharmaceutist, Macon.

This society holds regular meetings on the first Monday of every Month. Annual meeting for elections, first Monday in September. Organized March, 1851.

JEFFERSON COUNTY MEDICAL SOCIETY.

Drs. Frank M. Prince, President, Jonesboro,
Gilbert T. Deason, Vice-President, Elyton,
Richard Nathaniel Hawkins, Recording Secretary, Elyton,
James B. Vann, Treasurer, "
Mortimer H. Jourdan, Corresponding Secretary, "
Nathaniel Hawkins, "
Joseph R. Smith, "
George M. Morrow, "
Robert S. Green, Oregon,
Samuel Acton, Trussville,

LEE COUNTY MEDICAL SOCIETY.

Drs. John B. Barnette, President, Opelika,
W. W. Bloodworth, 1st Vice-President, Loachapoka,
Allen N. Lightfoot, 2d Vice-President, Opelika,
Leven W. Shepherd, Secretary, "
James W. McCoy, Treasurer, "
Frank G. Powledge, "
Thomas R. Russell, "
Aurelius Grigsby Emory, "
Eli C. Bowen, "
John W. Myrick, Auburn,
Andrew H. Read, "

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Lee County—*(Continued.)*

John Hodge Drake, Auburn,
A. T. Rowe, "
Daniel W. Lloyd, Salem,
R. Milton Tucker, Mt. Jefferson.

Holds regular meetings on the first Tuesday of every month.

LOWNDES COUNTY—*Letohatchie Medical Society.*

Drs. Alexander Burnett McWhorter, President, Sandy Ridge,
Daniel Styles Hopping, Secretary, Letohatchie,
Robert Poindexter Means, Hickory Grove,
Frank McLean, Letohatchie,
Edwin L. Saunderson, "
Robert Hale, "
— Allman, "

MACON MEDICAL SOCIETY.

Drs. J. W. Hunter, President, Tuskegee,
W. F. Hodnett, Secretary, "
W. J. Gautier, Treasurer, "
Wm. H. Crawford, "
Wm. R. Cunningham, "
E. B. Johnson, "
Wm. M. Menefee, Cotton Valley,
B. F. Johnson, Notasulga,
F. W. Williams, La Place,
W. A. Hadden, " "
Charles Boyd, " "
G. B. Slaughter, Warrior's Bend.

The list here given is that of last year, the Secretary having failed to get a response to his circular letter inquiring for a list of officers and members for this year.

MADISON COUNTY MEDICAL SOCIETY.

Drs. Flemming Jourdan, President, Maysville,
Allen J. Green, Vice-President, Huntsville,
John J. Dement, Secretary, "
John D. Carter, Treasurer, "
Henry W. Bassett, "
G. C. Greenway, "
Louis D. Carter, "
Alfred A. Wall, "
James P. Burke, Meridianville,
Alva C. DeBow, Gurleyville,
W. K. Taylor, (Surgeon U. S. A.) Huntsville.

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Mobile Medical Society.

Drs. Edmund Pendleton Gaines, President, Mobile,
Caleb Toxey, Vice-President, "
Edmond H. Fournier, Secretary, "
Goronwy Owen, Treasurer, "
Frank Armstrong Ross, "
Wm. H. Ross, Jr., "
George A. Ketchum, "
James Fountain Heustis, "
Wm. Henry Anderson, "
John Taylor Gilmore, "
Jerome Cochran, "
J. F. Savage, "
G. A. Moses, "
F. M. France, "
C. C. Sherrard, "
John L. Collins, "
W. T. Webb, "
H. L. Stark, "

HONORARY MEMBERS.

Drs. Josiah C. Nott, New York, N. Y.
George E. Redwood, Meridian, Miss.,
Duff C. Child, Louisville, Ky.

Board of Health for the city of Mobile, and Board of Medical Examiners for the county of Mobile, elected by the society.

Drs. George A. Ketchum, President,
G. A. Moses, Secretary,
Frank A. Ross,
John T. Gilmore,
Wm. H. Anderson.

Organized 1843. Regular meetings, every Saturday. Annual meetings for elections, first Saturday in December.

Monroe County Medical Society.

Drs. James M. Lindsey, President, Claiborne,
Thomas J. Boyles, Secretary, "
Lawrence R. Moore, "
Robert I. Draughan, "
J. W. Shoma, Mount Pleasant,
James Russell, Monroeville,
Wallace W. McMillan, "
James S. Jenkins, "

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Monroe County—*(Continued.)*

Drs. John L. Shaw, Newton Academy,
John C. Shaw, " "
Fielding S. Dailey, Burnt Corn,
Freeman H. Liddell, Buena Vista,
Hugh C. Bradley, Bell's landing,
Wm. M. Longmire, " "

MONTGOMERY MEDICAL AND SURGICAL SOCIETY.

Drs. James Milward Williams, President, Montgomery,
Samuel Edwin Norton, 1st Vice-President, "
Walter Clark Jackson, 2d Vice-President, "
Owen Paschal Harrison, Cor. Secretary, "
Thomas Alexander Means, Rec. Secretary, "
George Fitzedward Pollard, Treasurer, "
John Howard Blue, Librarian, "
Wm. Owen Baldwin, "
James Douglas, "
James Anton Fremon, "
John Brown Gaston, "
Francis Mason Hereford, "
Thomas Roberson Hill, "
Joseph William Holt, "
John Foot Johnson, "
Benjamin Rush Jones, "
Urial Richard Jones, "
Paul C. Lee, "
Frank Lynch, "
Richard Fraser Michel, "
Andrew Thurston Pearsall, "
John Thompson Sanky, "
Samuel Dibble Seelye, "
Edward Armistead Sample, "
John Godwin Scott, "
Henry Lewis Stone, "
Whitten Peterson Taylor, "
Job Sobiesky Weatherly, "
Thaddeus Joseph Weatherly, "
Robert Sebastian Williams, "
Albert Peter Vandevere, "
Dunklin Pierce, Benton,
George Wilkins McDade, Mt. Meigs,
Cammillus Llewellen Pinkston, Mt. Meigs,
James Berney, Greenville,
John Berney, "

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Montgomery County—*(Continued.)*

Remark:—Dr. Pinkston is also a member of the Merriwether Medical Society, and the two Drs. Berney of the Greenville Medical Society.

PERRY COUNTY MEDICAL SOCIETY.

Drs. F. A. Bates, President, Marion,
Robert Foster, Vice-President, Marion,
J. C. Dozier, Secretary, "
W. W. Wilkerson, Treasurer, "
Samuel Perry, "
T. B. Thompson, "
W. T. McAllister, "
J. W. N. Mears, Hamburg.

PERRY COUNTY—*Union Town Medical Society.*

Drs. John M. Langhorn, President, Uniontown,
Richard D. Ashe, Vice-President, "
Wm. A. Bradfield, Secretary and Treasurer, Uniontown,
John Bradfield, "
James H. Houston, "
D. E. Barger, "
Solon Z. Coleman, "

PICKENS COUNTY MEDICAL SOCIETY.

Drs. Alexander W. Agnew, President, Providence,
Henry C. Moorehead, Vice-President, Pickensville,
Thomas F. Wier, Secretary, Carrollton,
Benjamin Franklin Wilson, Pickensville,
Alexander M. Wilkins, "
Henry Doss, "
— Gardner, Bridgeville,
Joseph Grisham, Memphis,
J. H. Graham, "
— — Saturfield, Pickensville,
S. F. Bonner, Reform,
— — Starting, Bridgeville,
James Fairfield, Carrollton,
S. H. Hill, "
S. F. Hill, "

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Sumpter County Medical Society.

Drs. Edward H. Sholl, President, Gainesville,
James M. Godfrey, Vice-President, Sumpterville,
Robert Dickens Webb, Secretary, Livingston,
Joseph A. Smith, "
Robert H. Arrington, "
Michael C. Kinnard, "
William H. Sledge, "
R. M. Harris, "
James R. Garber, "
Jessee C. Houston, Warsaw,
James M. Mayes, York Station,
Darby Hennegan, Jones' Bluff,
John T. Allison, Cuba,
J. H. Giles, "
R. P. Vail, "
J. G. Michael, Belmont,
J. D. Johnson, Fulton,
W. R. Horn, (Choctaw County), Butler.

Reorganized after the war January 22d, 1866.

Tuskaloosa County Medical Society.

Drs. James Guild, President, Tuskaloosa,
Reuben Searcy, Vice-President, Tuskaloosa,
James T. Searcy, Secretary, "
Wm. Hester, Treasurer, "
James T. Harris, Librarian, "
Wm. A. Cochrane, "
Robert Neilson, "
Peter Bryce, "
James Guild, jr., "
Nicholas P. Marlowe, "
John Little, jr., "
Benjamin Barry, Carthage,
Wm. A. Leeland, Tuskaloosa,
John B. Read, "

Talladega Medical Society.

Drs. J. C. Knox, President, Talladega,
J. C. Blake, Secretary, "
A. J. McAlpine, "
Joseph Henry Johnson, "
B. W. Foote, "
P. Gist, "

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Talladega County—*(Continued.)*

B. F. Nicholls, Alpine,
J. H. Gorman, "
B. Grace, Mumford,
W. G Slaughter, (Clay County), Pinkneyville.

The list is that of last year, no new list having been received.

WILCOX COUNTY MEDICAL SOCIETY.

Drs. A. C. Matheson, President, Camden,
J. D. Caldwell, Vice-President, "
J. Paul Jones, Secretary and Treasurer, Camden,
E. D. McDaniel, Camden,
John S. Lynch, Clifton,
J. C. Abernethy, Pine Hill.
Joseph H. Presby, Camden,
Thomas G. Jenkins, "
Lucky W. Jenkins, Allenton,
Wm. T. Haddox, Pine Hill,
W. H. Abernethy, Camden,
Thomas C. Smith, Black's Bluff.

The list is that of last year, no new list having been received.

MEDICAL SOCIETY OF NORTH ALABAMA.

Drs. George Ernest Kumpé, President, Leighton,
James T. Jones, Vice-President. "
James W. Gilbert, Recording Secretary, Tuscumbia,
W. G. Wheeler, Corresponding Secretary, Cherokee,
Joseph P. Pride, Treasurer, Tuscumbia,
Robert T. Abernethy, "
William Desprez, "
John W. Rand, "
Louis H. Sadler, Leighton,
George Shegog, "
Benjamin Rush King, "
P. Parks Carter, "
Brian O. Masterson, Avoca,
N. Alexander Smith, Newberg,
C. P. Banks, "
John W. Clark, Mt. Hope,
Julius S. Simms, " "
John Douglass, South Florence,
James Kyle, Florence,
Daniel W. Sevier, Frankfort,

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North Alabama—*(Continued.)*

Drs. Andrew Jackson Sykes, Courtland,
Fortunatus S. McMahon, "
L. H. Binford, "
Edward C. James, "
J. W. McMahon, "
R. G. Barclay, "
E. C. Ashford, "
James M. Houston, Dickson,
B. M. Hughes, Barton,
Reese B. Porter, Town Creek,
Calvin A. Crow, Moulton,
H. W. Bassett, Huntsville,
J. J. Dement, "
William C. Cross, Cherokee,
J. B. Lorance, Florence.

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ANNUAL ADDRESSES.

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PRESIDENT'S ADDRESS.

BY DR. F. A. ROSS, OF MOBILE.

Fellows of the Medical Association of the State of Alabama:

GENTLEMEN: Nearly a quarter of a century has glided by since I assisted in the first organization of this association. As if it were but yesterday I recalled to mind the youthful energy, the sanguine hopes, the earnest love, the pure devotion which I honestly dedicated to the advancement of my chosen profession; and now that the frosts of many winters have left their impress, they have not chilled the ardor of my youth, nor my earnest desire to do all that lies in my power to promote the advancement of our science, and particularly the interests and welfare of our professional brethren in this State. Chosen by your suffrages, to the office of president of this association, I feel while expressing to you great gratitude for the unexpected and undeserved distincttion, that I can only repay your confidence, by trying to the utmost extent of my poor abilities, to deserve the trust which you have confided to me. In endeavoring to do so I shall, no doubt, frequently be compelled to solicit your forbearance and charity.

Perhaps it would be better for me to give, for the benefit of those who are comparatively young in this association, a rapid, imperfect sketch of the history of the association. In 1849, a medical convention consisting of delegates from the Selma, Montgomery and Mobile Medical Societies, met in Mobile, and resolved themselves into the Alabama State Medical Association, which, under that name, has existed ever since. I need not detail its history further than to say that it continued a rather feeble existence until 1861 when the war prevented any further meetings. The credit of its reorganization is due to the Selma Medical Society, and particularly to Dr. A. G. Mabry, of that city. The Selma Medical Society during the latter part of the year 1867 issued a call to the medical societies of the State, as well as to all professional brethren, to meet in Selma, on March 3d, 1868. This Convention was held, and delegates from the Selma, Greensboro, Montgomery and Mobile Medical Societies, with other medical gentlemen, met and reorganized the medical association of the State of Alabama.

From its reorganization its progress has been rapid, and during the presidency of Dr. Mabry several new societies were formed in

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the State. In the spring of 1869 the association met in Mobile and was largely attended by delegates and members from all parts of this State. At this session the accomplished and popular Dr. R. F. Michel, of Montgomery, was elected president, and bringing all his energies and well known powers of persuasion to bear upon the profession in Alabama, he was successful in organizing eight new medical societies in Alabama. During the following year the number of societies was increased to (29) twenty-nine, and we have representatives from every portion of the State of Alabama. These delegates represent the medical talent of our State, and are capable of so reporting the diseases of their respective counties, with their hygrometic, atmospheric, telluric and hygienic conditions, as to aggregate an amount of information which must be of vast benefit to the profession and to the public.

Gentlemen: I do sincerely hope that hereafter *full* and *complete reports will be made by all the appointees in every county* in this State. The amount and value of the information thus obtained will be of *incalculable* value to the profession and to the State. To illustrate: A topic of conversation amongst the medical men of this city for years past, has been the certainty that the telegraphic wires would be made to serve the purpose of protecting, in warning all sections of this country of the approach and direction of storms. We now see that it has gone farther, and daily predicts with almost absolute certainty, although only under the term of *probabilities*, the weather for the next twenty-four hours. *(Uncertainties now existing will doubtless be soon rectified by close observation and comparison.)* There is no doubt in my mind that all atmospheric disturbances are governed by immutable laws, and that when this system can be so extended as to embrace the whole country, and regular deductions arrived at by close observation and comparison, a general law will be found to govern all these apparent mysteries. I adduce this fact simply to illustrate the importance of the suggestion which I make to you to observe closely all those apparent and palpable causes which change, in any way, the sanitary condition of your particular localities. What may impress one man as a circumstance or matter of no importance or bearing upon the diseases of a locality, will on repetition or multiplication assume an importance which in time may establish a *rule* which is *found to be inviolable.* There is *nothing done by chance.* The *laws* by which this Universe is governed have been fixed and immutable from the BEGINNING. *There they are and there they have been from all time*, and *there they will endure forever.* God breathed his spirit into the first man, to remain until the last man is gathered to him. He created man in his own image, and endowed him with his spirit. Was this to make him hide his talent away, or to use it to discover the principle of those laws which lead to his salvation and to his self-preservation, which is the first law of nature? Next to the protection and preservation of self is the

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protection and preservation of your neighbor, your brother, your fellow man. Does it not then behoove us to investigate, to labor, to observe, to earnestly and diligently employ all those talents which have been mercifully given to us; to do all in our power to prove that we love our fellow man, by securing his good?

How can we, as medical men, better accomplish this purpose than by studying, discovering, and profiting by these natural laws which only reveal themselves to the most patient, untiring, and earnest investigation, comparison, and study? It is by this observation, comparison, and *reason* that we can trace the connection of circumstances, and learn from what combination of them we may expect to witness particular results. These results in the course of time will be found to follow so surely upon well settled principles, based upon securely established facts, derived from accurate observation, as to form a basis for a system of Hygiene for our State, that will place it in the front rank of the States of this country. And why should you not succeed in *first* occupying this position? I address myself to the professional pride of my native State. When I look back over the last few years and see the rapid progress manifested in your *transactions*, culminating in the last, which compares *more* than favorably with the transactions of any State in this Union, I feel *more* than encouraged. I feel confident that you can give to the State Medical Association, and to the medical profession of Alabama a prominence second to none in this country.

But in order to accomplish this end, *we must combine to work together*. We must allow no divisions in our ranks, no jealousies, no local nor sectional feelings, for such do not belong to, nor have any place in an enlightened, liberal profession; but looking solely to the honor, prosperity, and advancement of our cause, we must band together as brothers with the sacred object of devoting all our energies and our lives to the accomplishment of this object. Many conflicting views as to the mode of accomplishing these purposes, may be presented, but we must, in charity, allow for the differences of opinion inseparable from human fallibility, and labor upon the certainty that *Time makes all things right*. But other inducements besides those of pride, and love to honor our profession, surge us on to our labors. The world must move on. Every man has his allotted labor on this earth, and while statesmen, and warriors, and merchants, and artisans are astonishing the world with their progress, the medical profession has shown itself brilliant beyond all precedent, particularly in its vast discoveries in physiological medicine, and its application of Hygiene for the preservation and prolongation of life. To this field, and into this company we are called to take our places. Let us step forward and contribute our mite, even if it be a few little shells gathered on the shore. I feel that I shall not call in vain. What is the prize offered, what the goal to reach, what the ends to attain? The preservation and prolongation of human

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life, the prevention of disease, the elucidation of those comparatively hidden laws which govern our healthful existence, and the *enforcement* of those laws for the welfare of our fellow-creatures. Can this be done? Imperfect, crude, and ill-directed as have been most attempts to accomplish these purposes, we can now profit by past experience; and by the lights of the present day we can map out a course for future guidance, by following which we can avoid the errors of the past, and arrive at that inevitable conclusion which is the basis of all truth and knowledge. To do this, we must enter into these labors imbued with the proper spirit; we must have a due sense and a proper appreciation of the importance of the subject, leaving out of consideration its difficulties; we must only look to the great ends to be obtained. When we cast our eyes around the mundane horizon, we see that the whole world is alive and active. This is indeed an age of progress; of rapid railroad progress. Every science, art, and trade is advancing with lightning speed. Education is becoming universal, and as the mass of the human intellect is enlightened and developed, it rises above the fogs and mists of ignorance. Superstition, false teachings, and pernicious doctrines, and profit by the light of truth and knowledge.

In this rapid progress it is our pride to know that our profession has kept up. When we cast our eyes over the great and rapid advance, made by our profession in all its branches, but more particularly in the *materia medica*, chemistry, and physiological medicine, we can but feel the earnest call which it makes upon *us Alabamians* to take our places in the ranks of those whose highest ambition was to contribute *something* to the honor and advancement of their calling. The field is open to us. Observations and reports, such as I have alluded to, may, at first, be crude, ill-digested, imperfect, and incomplete; but with a certain end to be obtained, and the means of arriving at that end well understood and clearly observed, we may be the *first* to demonstrate the practical benefit of the application of those great Hygienic laws, the observance of which is so essential to the well-being of individuals and States. I do not think that we should be discouraged or disheartened at the extent of the labors before us, but rather let us be stimulated to exert the proper spirit and determination to overcome the obstacles that stand in the path of advancement of our beloved State.

You may say that this is only a *probable* or *possible theory* or hypothesis. Now I do not set out with vague and disconnected observations, unsuggested by rational hypothesis, but with a preconceived idea, the result of thought and careful examination of the facts and phenomena that bear upon this subject. If we can faithfully observe and carefully compare the observations made and results obtained, and note well every fact that can have any bearing upon this subject, and carefully exclude every possible source of

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fallacy, we will find that what was hazarded as a hypothesis, is proved to be a law of phenomena.

"To theory, then, in this sense, we owe all true progress in knowledge. If Columbus had not had a geographical theory of dimly conceived western lands, and the great kingdom of Cathay, he would never have set foot on his voyage of discovery." Without theory Harvey would not have unfolded the circulation of the blood. Without a theory, the grand laws of the Universe would not have been revealed to Newton. Without theory Le Verrier's name would not have been blazoned high on the scroll of Fame, to descend through all time as one who faithfully interpreted the immutable and perfect laws of the Universe. Supported by his *theory* from the stillness and quiet of his study, he foretold the appearance, indicated the exact point, and predicted the precise time that a planet, hitherto undiscovered and unknown, and unseen by mortal eyes, would make its appearance.

There are several subjects closely concerning our profession, to which I wish to call your attention, as my own individual opinion has been asked about them by correspondents belonging to this association. In the first place, should not some action be taken by this association with regard to the proper medical supervision and care of the immense number of paupers thrown upon the State by the result of the late war. There is no community in this State that does not contain large numbers of shiftless, improvident blacks, who, when attacked by disease, must be attended to. It seems to be the universal conviction that the people have a right to the gratuitous attentions of the medical fraternity, which attentions often include food, medicine and money. Under ordinary circumstances, and in all communities, there is no doubt that the members of the medical profession are called upon and unreasonably expected to do more for charitable purposes than any other class; but I must enter my protest against the saddling upon the shoulders of our brethren the hundreds of thousands of paupers thrown upon us against our wishes, and I hope that this association will adopt some plan by which the members can be protected from imposition, not only by these people, but by those who aid and abet them in their idleness and improvidence. There is another subject to which my attention has been called by several letters, and that is the subject of the proper and timely remuneration of the physician for his services. I approach this subject with much hesitation, for it is one which, in this country, has never been properly settled. I feel myself free to say that it is now time that some general concert of action should be had, and I hope that this association will take the lead in the matter.

When we look around us we find that the system of cash payments exists all over the world. Every article of produce or of manufacture, brings its cash price. Every artisan, professional

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man, (outside of the medical profession,) laborer, or workman in any capacity, are paid at *regular* intervals of short duration. Many avocations, as bankers, colleges, editors, receive their pay in advance of services rendered. This is all considered right and proper *because it is the custom.* The medical profession *alone* is expected to give its time, labor, and money for an indefinite time, and frequently for nothing. This is also nothing but *custom* in this country.

Henry Taylor says: "The philosophy which teaches us a contempt of money does not run very deep, for indeed it ought to be still more clear to the philosopher than it is to ordinary men that there are few things in this world of greater importance. And so manifold are the bearings of money upon the lives and characters of mankind, that an insight which should search out the life of a man in his pecuniary relations, would penetrate into almost every cranny of his nature. He who knows, like St. Paul, both how to spare and how to abound, has a great knowledge." How often in our hours of study and research are we reminded that we are not free agents in a certain sense. How often is the mind, while winging its flight into the regions of scientific investigations, rudely brought back to the consideration of material requirements? What can we do?

I believe that the United States is the only country where physicians "keep books." In all other countries the physician is paid for each visit that he makes, and he has the consolation, when he goes home at night, to know exactly how much he can afford to dispense the next day. There is no doubt that this plan could be made to succeed everywhere, and it is now being generally adopted in the northern cities and States, and is found to succeed very well. The advantages of this plan to the physician and to the patient are so obvious that I will not dwell upon it. In reply to the several communications which I have received on this subject, I can only call the attention of the association to it, and leave it to their wisdom to take action upon it if they see proper to do so.

There is one more point to which I have been requested to allude in my address to this association, and that is a plan for life insurance for medical men.

I must confess that this is a subject which has occupied my most earnest consideration, and my deepest thought. For thirty years I have been engaged in the practice of my profession in this city, and I have carefully compared, during this time, the relative chances of medical men with others in the great battle of life. Starting out in life we find ourselves full of ambition, expectation, hope and rivalry with the friends and candidates for fame and fortune of our own age. In the exuberance of youth and health, like all persons of our age and strength and ambition in commencing life, we think that we will soon outstrip all competition in our ranks. Years pass by, long, weary, laborious, ill requited years. The friends of our

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youth, pursuing other avocations requiring less labor, have left us far behind in the race.

Governed by the laws and customs of our profession as practiced in this country, the medical man is rarely able to retire from active life, even when old age and infirmities overtake him. But often he falls in the plenitude of his strength, a victim of his devotion to his profession, and leaves to his family a heritage of woe and want. Cannot some plan be adopted by which the families of medical men can be provided for? Do we not owe it to our brethren to make the attempt? I take it for granted that the State owes a great deal to its Physicians. Why have we assembled here now? Why do our medical societies meet weekly and monthly? It is for the *public good.* All that contributes to the public good inures to the benefit of the State. The State has *never* sufficiently appreciated nor recognized the benefits conferred upon her by the medical profession. Why should we be expected to bestow a very large portion of our time in *charity* to the State, to be *thanked by a direct tax for this privilege.*

I think that this professional tax should be turned over by the government to this association for the purpose, year by year, of insuring the lives of those in the profession who wish to avail themselves of the opportunity.

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ANNUAL ORATION.

BY WM. H. ANDERSON, M. D., OF MOBILE.

Gentlemen of the Association:

It is just twenty years since I had the honor to fill this position. Then I was full of ardor and enthusiasm, being buoyed up on the one hand with youth and health, and flushed on the other with the hope of success, and the desire to attain a respectable position among the active practitioners of our State. During this long period which is more than half of my professional life, I have witnessed with satisfaction the gradual advancement of our calling. I have seen the streams of science fed by a thousand different sources, steadily flowing on to empty themselves into the great ocean of knowlege; and yet this vast receptacle has never been filled; ever deepening and widening as we add to its accumulated waters, it is still calling loudly for additional supplies, not disdaining to add to its store from the very humblest sources of human investigation. Wealth, power and fame, raise their proud heads to do homage only to the lofty and the great, but knowledge bows humbly to the lowliest source, and delights to place the peasant on a throne before which the prince feels proud to worship.

During these twenty years, my professional brothers, what strides have been made in our profession! How its literature, its art, and its science have been improved! How many dark places have been lighted up! How many doubts have been cleared away! The master minds of Europe and America have been keenly on the alert and have appropriated for the benefit of suffering humanity, many of the precious truths that have been discovered in all the kindred sciences. Mechanical philosophy discovers some new application of force, and we seize it with avidity to turn it to practical account in medicine. Chemistry breaks up hitherto unresolved compounds, and we snatch a fragment here and there to utilize it for our purposes. Geology opens a new field for research, and the physician is there to appropriate his share of it for professional uses. Commerce with commendable energy pushes itself into new and unknown countries, and we follow in its wake to gather up something even from a barbarous people that will be conducive to the public health. Even war, with all its attendant horrors, furnishes to the physician new experience which he can apply towards the perfection of his art

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As this address is to be delivered before a mixed audience, and as we are honored by a large attendance of non-professional persons, allow me for a moment to leave the paths that are strictly medical, and to travel in the regions of general science, especially in those paths which lead to a proper understanding of the science of *life* itself. That physician's mind is narrow indeed, who confines his powers strictly to the *treatment* of disease. It is the business of our profession to prevent disease; to investigate deeply all those phenomena of the natural and moral world that *cause* disease; and medicine will never have accomplished its true mission until it teaches mankind how to live, so that the largest share of physical health may be enjoyed, until the final summons comes, in obedience to which we pass through the valley of death to another state of existence. The Science of life then is an important part of our studies, and some of the ablest minds of the present age have been closely investigating it. Foremost among these philosophers is the learned Darwin, probably the profoundest thinker and the most acute observer of the present age. Within the past few years this great man has awakened all of intellectual Europe, by the publication of his researches into the laws that govern life. His theory of progressive development, traced through the whole kingdom of living nature, startled the philosophers of every country, and although his conclusions may be wrong, his deductions may be false, yet still he opens to our eyes a world of knowledge, hitherto so hidden and obscure that it was of no practical value. It will bear its fruit. The more we know of nature the better we can subject her to our control. We believe that man with all his imperfections is still the master-piece of creation. Not only age by age, but year by year is he grappling with the material world around him, and ameliorating his condition by placing matter subject to his will. Even the mystery that overhangs invisible and so-called immaterial forces, is being yearly cleared away, and those things, the bare contemplation of which appalled our ancestors, are now the humble instruments of our power. It was not by accident that our own immortal Franklin brought the lightning from its airy seat in the heavens, to be a plaything that he could, in a great measure, make subservient to his will. It was sound, philosophic thought; it was that immortal principle within us which is part and parcel of the Godhead himself. It was *mind* working out the secrets of nature and unfolding them to the public gaze—not to make man proud and imperious because he could unveil the hidden mystery, but to make him lowly and humble, and to raise his heart in adoration that such great power should be given to *one* so perishable and so insignificant. The application then of the mind is the talisman of the modern scholar, and a host of observers are using this talisman for the social and intellectual development of our race. One philosopher, like Darwin, takes in the whole range of animal and vegetable crea-

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tion as it exists on this earth. Not satisfied with continents with their extended plains, their deep and fertile valleys, and their wild mountain ranges, he goes into the oceans, and sounds their depths to get material for his thoughts. He carries his researches into the far off isles of the sea where man has never lived, and where only beasts and birds inhabit. He studies with untiring industry every physical and mental endowment, and discriminates with exquisite nicety between the natural and acquired peculiarities of individuals as well as species. His task is a gigantic one, but years of labor and travel accomplish it, and he comes back laden with precious lore to throw it all into the treasury of knowledge. Another savant, equally gifted, gives his whole attention to one particular department of life. He surveys the whole range of the insect world, learns their habits, their instincts, their mode of propagation, spends the midnight oil in microscopic researches, and reveals hidden beauties and delicate organizations too minute to be seen by the unassisted eye, and yet too beautiful to remain unseen. He brings the result of his labors, and throwing it down at the altar of knowledge, consecrates it to the temple of science. A third philosopher, following the bent of his inclination or the demands of his duty, takes up the physics of life, and calculates with mathematical precision the actual work that can be got out of a human being from the food he eats. He proves that a pound of meat and a pound of bread will produce so much labor, that is, will support the waste of the system in accomplishing such an amount of labor. These speculations are not idle. The growing necessities of the age demand them, and the amelioration of human life under wisely administrated laws, is the direct consequence of them.

In all these departments of human knowledge, since I last had the honor to appear in this capacity before your honorable body, a vast amount of labor has been performed, and our own brethren have been the artisans. The great men who have accomplished these things, who have thrown the blaze of their intellect into the dark and hidden secrets of nature, have gone forth from the halls of medical colleges, have passed through the severe ordeal of medical students, and have imbibed their thirst for this kind of knowledge from drinking at the fountains of *our* science in the lecture rooms of *our* colleges. If, gentlemen, we were to blot out from the history of natural science as it exists at the present day, all that has been done by our professional ancestors and cotemporaries, we would leave her fair fields a desert waste. Here and there might be found an oasis represented by a philosopher like Newton or Kepler, but so few and far between would be these delightful spots, that the ambitious student would be chilled with the thought, that what *he* could add to cheer the traveller would be so unimportant, it would hardly be worth his time and labor to attempt any thing at all.

We do not meet each other annually to boast of our achievements.

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It is in no such spirit that a scientific assemblage is drawn together. We do not desire to impress our fellow-men with the belief that we are self important, because our profession for the last two thousand years has been so actively employed in its researches after useful knowledge. We detract from no other vocation, no matter how elevated or how humble it may be. The statesman in every country is doing *his* work for the grandeur of his nation. The painter and the sculptor, with their refined and elegant taste and their lively and gifted imagination, are doing their part for the glory of mankind. The intelligent merchant of the present day looks beyond the mere barter of his ancestors, and projects and carries out great and stupendous enterprises for the benefit of man. Every occupation has its votaries—its great master spirits, who do honor to their nation and their craft. All that *we* desire is to let the world know that we too are at work, and occasionally, like other men, to show the fruits of our labor.

I wish the time allotted to me for this address would permit me to particularize some of the late brilliant achievements of science. It would be interesting and instructive, but we have barely time to allude to them. In the single department of light what wonders have been achieved! You will recollect that the first photograph of the human face was taken in the laboratory of one of our own American Colleges. Since that time, medical and other philosophers have been experimenting with this subtle fluid or ether, until it has subserved the most useful purposes, and administered to the most elegant tastes. Nay, more than this, they have travelled on its delicate pinions from this little speck of earth that we inhabit, to the far off source of light itself—to the great central sun that warms all nature into being, and clothes the earth and sky in all the gorgeous apparel that nature wears. They have ascertained that some of the most useful substances that we employ in our sublunary arts, exist also in the sun—that iron, and copper, and silver are *there;* and from this we infer that our earth is but a type of all other worlds that sparkle in the firmament, and whirl through the limitless expanse of space. Until lately we thought that the moon was a bleak and frozen mass of matter, perhaps an extinct world, or a planet just coming into use for animal and vegetable life. We now know that during the period of its daylight, which is equal to fourteen of our days, it is intensely hot, and that its heat can be felt upon the earth and measured by our instruments.

The *power* of light as it comes from the sun is beyond the computation of man. The *snow* that fell in a single storm a few years ago in the United States was estimated at fourteen hundred millions of tons, and yet this immense weight was lifted from the waters of the earth more than a mile in height, solely by the rays of the sun. What a power is here displayed by that very light which is so delicate as to fall harmless even on the tender tissues of the human

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eye. From late indications we have reason to hope that this power will be applied to mechanical purposes, and thus be utilized for the benefit of man. Now why do I mention these things before a popular assembly? Merely to show the advancement of science—to arrest the attention of the weary—to encourage the labors of the diligent, and to show that mind is on the onward march and is daily reaping its just reward. The road is open to every person within the sound of my voice. There is no mystery in scientific research. After all it is but common sense applied in a certain direction; and the same mind that devises the plan for making a well fitting shoe, or suggests the lines for a finely proportioned house, can, when it applies itself in a different direction, scale the firmament of the heavens, and measure the distance from star to star. Now let us leave this branch of our subject, and I part with it with regret, because it is such a beautiful field for us to travel in together.

In our own immediate profession, inventions and discoveries are daily adding to our store of knowledge, and overwhelming us with their effects. In the single branch of organic chemistry a flood of light has been thrown on the pathway of science. If the most celebrated chemist of thirty years ago, could awaken suddenly from a Rip Van Winkle sleep and peruse a volume published during the past year, he would be so dazzled with the display that he would be inclined to retire to his couch, and to bury his senses once more in forgetfulness. The science of *his* day had no terms to express the compounds that are now familiar to the merest tyro of the art. So rapidly has development gone on, that new words have to be manufactured in order to convey the proper ideas, and even the great Davy himself who was the authority for the world at large, could now learn from the youthful student, facts, which his imagination in its wildest mood had never dreamed of. Science is now the order of the day. Statesmanship has seen its palmiest era. Literature, so far as it could please the fancy, culminated in the generation that preceded us. The poetry of the *past* will perhaps touch and captivate the heart of the future, quite as much as any that will be sung in our day. Painting reached the height of its glory, and a glorious eminence it was, long years before we were born. But science, though active even with our ancestors, is now showing her herculean strength, and elucidating every department of human knowledge.

In a discussion in the French Academy not quite a quarter of a century ago, I heard the greatest of living surgeons say, that surgery had reached its climax and that little hope of improvement was to be expected. How false was the prophecy! Since that period a new branch has been created, and the well directed knife has carried health and happiness into a thousand forlorn and miserable households Alabama here comes in for her triumph, and in the person of her accomplished Sims, has carried her medical fame into

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every portion of civilized Europe. Montgomery saw the sun of his genius rise within her borders; now she sees it in its meridian splendor throwing its light upon the most distant nations. Be proud of him my fellow members from Montgomery, for he has done for suffering humanity as much as any philanthropist who ever devoted his life for the amelioration of mankind. It is thought by many that surgery is an *art*, and that he who manipulates well is the most skilful man. That may have been the case with the surgery of the past, but it does not apply to the surgery of our day. We not only claim it as a science, but one requiring the clearest head and the stoutest heart. Let it not be thought that the true surgeon has no sympathetic chord in his bosom to vibrate for the suffering of his patient. He is human like ourselves, and ought rather to be admired for the steady hand which can inflict pain on a fellow being for the purpose of doing ulterior good.

It is, perhaps, gentlemen, in physiology that more rapid strides have been made than in any other branch of our science. The firmament of medical literature is brilliant with the names of these observers. Their researches are so minute that they almost baffle human comprehension, and it takes a good mathematical scholar to follow out their calculations. I mentioned that a certain amount of labor required for food a pound of meat and a pound of bread to produce it. I wish now to explain to the audience how this calculation is made. It is known to you that the human body is constantly undergoing a change. All the particles that are in a given part of the body to-day will not be there to-morrow. Some of them are broken down, disintegrated, and escape with the breath, the perspiration, and other secretions. By the *breath* alone more than seven ounces of the solid substance of our bodies is daily expelled in a gaseous form. To keep the body in a state of integrity, however, new particles are replaced, and such take their origin mostly from the food that we eat. By a singular and complicated process going on in a myriad of infinitesimal workshops, the food is elaborated and changed into muscle, bone, brain, hair, and all the other ingredients that go to make up the sum total of the human form. Thus are the effacing fingers of decay continually consuming our substance, while the vital architect within is keeping pace with the loss, and adding new matter to take the place of the old. How then, it has been asked, is *personal* identity maintained if this ceaseless change is going on? An agreeable writer answers in this wise:—The oxygen that departs seems to whisper its secret to the oxygen that arrives; and thus while the *non ego* shifts and changes, the *ego* remains intact. Life, then, is a *wave*, which in no two consecutive moments of its existence is composed of the same particles. But the wave passes on transporting its mysterious freight to other shores, for other and important uses. Now physiological chemistry teaches us the exact amount of the daily loss. It teaches us also the exact amount of nutriment

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in every species of food that we eat. If this were all, the calculation would be easily made. But it goes farther than this. It acquaints us with the amount of loss produced by the various movements of the body. The blacksmith who works at the anvil from sunrise to sunset; the pedestrian who walks one mile or ten miles, as well as the lazy drone of the tropics who sits all day in the shade, half asleep and half awake, lose their muscular substance somewhat in proportion to the amount of exercise they take. Even the evolution of thought, whether it result in the soft sentiment of the poet, or in the philosophical induction of the scholar or the statesman, is accompanied with loss of substance, and this loss must be made up by appropriate food. Modern physiology, I say, can accurately determine what kind of food is best adapted to the various work, and the amount that is necessary to produce it. Is *all* this idle and curious speculation? By no means. The amelioration of our fellow-man is the consequence of it. Under humane legislation it finds its application in the work house; in the prison; among the unfortunates of the lunatic asylum; in the damp and unwholesome mine far beneath the surface of the earth; in the various factories, where men, women, and childen toil from daylight to the late hours of the night, in order to keep soul and body together. To an enlightened mind it suggests the appropriate nourishment for severe intellectual labor; so that when the celebrated Agassiz told his friends that he must retire to the sea shore to get food for his wasted brain, he was telling them but the plain and simple truth; or when the aged Humboldt, in the midst of his abstruse calculations, called frequently for dilute phosphoric acid for a beverage, he was doing only that which the daily laborer does when he asks for meat in proportion to his work.

What now is the application of all this to disease? What use does the enlightened physician make of it in his daily round of practice? *Much*, indeed; far more than many of you would expect. He transfers the reasoning from the *well* to the *sick*. Modern science has taught him that fever is like labor; it wastes the body; it wearies down the muscular tissues; it weakens the nervous system, and wears away the patient like hard work wears away the half-fed horse. A man with typhoid fever, though prostrate in his bed, is daily doing a vast amount of labor. The fever wastes his body, and although we cannot cut it short, we know how to make up for the waste of his tissues. Our science teaches us that we must supply him liberally with such nourishment as will repair the loss, and the enlightened physician of the present day knows what kind of food and drinks to give him, and what kind of medicine assists him to digest such food, so that in proportion as old flesh is lost new flesh may be deposited in its place. This is a great step gained by modern researches, and it is knowledge dearly bought by the deepest philosophical reasoning. I have taken for illustration

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only one disease, but there are many in the catalogue where the same principles will apply. It is much to be regretted that facts like these are not generally known; are not interwoven with every man's collegiate education, so that if he does not know how to apply them for his own well-being, he may, at any rate, know where to seek for advice, which is of the first importance to him either in health or sickness. In this country the community has hardly awakened to the value of educated physicians, but our neighbors across the water are keenly alive to it. Quackery holds no sway over the intelligent families of the enlightened nations of Europe. They ignore its wiles, no matter how seductive be the garb in which they are dressed. They value physical health too highly to allow themselves to be trifled with by ignorant imposters who practice out of the pale of medical science, and when they need assistance they select such as is acknowledged, not by the masses only, but by the profession itself, believing that those educated in the profession are the best judges of who is competent and who is not.

In another field of physiological research, the discoveries have not been less vast or less important. The subtle analysis of the blood in health and in disease has been marked with the most important consequences. The same kind of analysis into the poisons of noxious vapors has revealed a host of preventives that the physicians of the past knew nothing about. The high powers of the microscope that bring within the range of our sight the minute creatures of the hidden world, are now opening an unexplored region that none but the scientific physician can ever travel in. The theories of the *past* are giving place to the facts of the *present*, and to the brightest hopes for the *future*. Pestilence once kept great cities at a standard population, but science, aided by wise legislation, now keeps it at bay, and though we may never eradicate it, we may still be able to keep its blight away from the community, and thus save from premature destruction the fairest and best of our race.

The microscopic researches into the nervous system have lately developed certain masses of nerve substance in every portion of the body, acting as distinct centres of nervous influence, and which, for a time, can keep up an independent action in any given part. This promises to be a very important discovery, inasmuch as it tends to elucidate some physiological phenomena that could not be satisfactorily accounted for. The vitality of some of the cold-blooded reptiles, even after the brain has been removed, has long puzzled the physiologists. The movements of the decapitated animal were referred entirely to the reflex action of the spinal chord, but this is hardly enough to account for the long continued persistence of vitality. It is highly probable that these *nerve masses* come in as an important factor, and they may also have much to do with those strange motions that we witness in persons recently dead of cholera, as well as other local movements during life, the cause of which has

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hitherto been obscure. You may ask, of what use is all this? you cannot restore the patient's life, nor can you prolong the existence of the reptile more than an hour after taking off his head. That is true enough. But having ascertained that these little nerve masses, until lately undiscovered, can generate power under appropriate stimuli, we are led to use such stimulus in the bed-room of the sick. It teaches us how to give power to the paralytic, to restore to health the functions of various parts of the body by *local* means, without subjecting the suffering invalid to continued doses of medicine.

One of the most important developments of modern science is the well established fact that rigid cleanliness will keep away disease. Some of the microscopic objects causing disease increase so rapidly that a thousand or a million will be generated in an hour. The very atmosphere that we breathe is full of them. The surgeon lays down his knife, and picks it up again swarming with objects that he cannot see, and transplants them in the wound he is trying to heal. The nurse often unconsciously does the same thing when not scrupulously particular with his towels and sponges. *Nature* furnishes the poison, but *science* steps in with the antidote and prevents its taking effect; and the result of all such researches is, that the cleanest cities the cleanest prison-houses, the cleanest hospitals, are by far the most healthy. Water, however, is not the only agent to be used. It must contain in solution certain disinfectants which were not discovered by accident, but which were only suggested after patient, laborious study, and often repeated experiments. But, gentlemen, I must close this portion of my address. All honor, however, to the great names that have distinguished themselves in this department

It gives me pain to say that some of these great men incline to materialism. Their investigations bring them so near to the point where *in*organic matter springs, as it were, into life, that they leap over the little chasm, and embrace the doctrine that life itself is evolved from *matter*. In other words, that if they could only go a little further, they could create an animal or a vegetable of the lowest order, and then that such creation could go on to perfect itself by natural and artificial causes, until it culminated in the giant oak of the forest, the great leviathan that swims the deep, or even the majestic form of man himself. In the pride of their *really* comprehensive intellects, they dislike to acknowledge that there is anything behind the veil which they may not see. They are blinded to the finger of the great Creator from whom life in its humblest form always proceeds. They can attribute to Him every power, and yet *life*, the subtlest and most miraculous of all essences, they wish to seize from His grasp, and make it subject to the changes that take place in certain material gases, under what they call favorable circumstances. Vain and deluded philosophers! Is there not enough in the great range of nature to occupy their speculations without

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going to this doubtful and uncertain ground? Are they not satisfied to investigate His laws, without disputing with Him the palm of creating the first and most important of *all* of His wonderful works? Let us hope that they will waste no more time in these idle speculations which are fraught with so much danger to the noblest of all of God's creatures. Better that mankind should remain in utter ignorance, and grope through life like the uncultured savage, than to risk the loss of their immortal souls by attempting to scrutinize too closely the works of Nature's God.

For myself, gentlemen, I am the humblest of the students of nature. What I know is as *nothing* compared with what there is yet to learn; but the more I study of it, the more do I see the Divine hand guiding, guarding, creating everything. More especially do I see it in mind—mind, which in the twinkling of an eye can compass earth and Heaven; mind which can give rise to all the soft sentiments, the tender emotions, the noble and generous feelings which we know we possess. Can all these flow from matter—matter which putrifies and perishes: which to-day assumes one shape, to-morrow another, and on whose very existence ceaseless change is written. I cannot believe that there is any chemistry subtle enough to analyze an emotion of the mind. I cannot believe that the refined and exquisite sentiments that originated in the brain of Milton, of Shakespeare, of Tennyson, sentiments that have enchained the world, and kept whole nations of intellectual men in breathless suspense on account of their beauty and sublimity, could possibly flow from matter. I am unwilling to think that the lofty conceptions of Cicero, the burning genius of Michael Angelo, the glowing effulgence that radiated from the inspired brain of Isaiah, could have their origin in perishable matter. No, rather would I humbly confess my ignorance, and leave the field unsatisfied.

Now, if *mind* is so difficult to analyze, and presents so many barriers to a clear understanding of its phenomena—if it has baffled the metaphysics of Locke, of Hume, of Stewart, and of the brilliant host of kindred writers who have lived from Aristotle to the present day; how much *more* difficult is it to comprehend the enigma of *life*, that subtle emanation from the Supreme Being that pervades the world; that attenuated essence which spreads through ocean, air, and earth, making green the grass, vocal the forest, and joyous the innumerable creatures that sport in the sunshine, and sing their perpetual hymn of praise in honor of their Creator.

A distinguished writer, now within the sound of my voice, in a public address which for perspicuity, for erudition, for elegance of diction, will compare with any discourse written in the present learned age, has said, "that an animated atom whirling through the proud heart of a Russian Czar on *Monday* morning, may be masticated in a carrot by the meanest of his vassals on *Saturday* night." Aye, but *who* animated the *atom*? Who gave it life and

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action so to whirl, and having whirled to its satisfaction, then to metamorphose itself into an infinitesimal part of a carrot or a turnip? Did *matter* give it Life? Did not its animation rather come from the great First Cause, who shows His awful grandeur in the thunder and the lightning, His ample benevolence in the beauty of the green earth, now robed in all the colors of the rainbow, then hushed in darkness and in silence, only to burst forth once more into all the splendors of returning day? No, I say, I would leave the mystery to be solved in some higher state of existence that I may hereafter enjoy, and in the midst of my perplexity exclaim with the Poet,

"Thou great First Cause least understood,
Who all my sense confined;
To know but this, that Thou art good,
And I myself am *blind*."

I have regretted that some of our great authors are becoming materialists. Writers outside of the profession reproach us with materialism. A very eminent French divine complained a year or two ago, that materialism was taught in Paris with the sanction of the minister of public instruction. He says it is triumphant in the medical school of Paris. I do not wonder that any doctrine, no matter *how monstrous*, should be taught in France, but I am sorry to see public lecturers following in their footsteps in England, and even in our own country. The *principle* of life neither comes from matter, nor goes to matter. When its earthly tenement either by disease or decay becomes too imperfect to contain it, the flame may flicker, and the spark go out to our eyes, but it still exists as it has done throughout the eternity of the past, and as it will do through all the endless ages of the future. The thought is beautifully expressed by Tennyson in the following lines:

My own dim life should teach me this,
That life shall live forever more,
That nothing walks with aimless feet,
That not *one life* shall be destroyed
And cast as rubbish on the void,
When God has made the pile complete.

Where, gentlemen, will all this end? Does it not inevitably lead to materialism of the grossest character? Does it not root out the very foundations of religion? Does it not put a seal on the wistful eyes of faith, and lead us eventually to worship at the shrine of reason. Give to these philosophers what they claim. Believe with them that life is the offspring of matter; what then will they ask? They will say:—If life comes from matter, and mind is the direct offspring of matter, then why not the soul, the "so-called" immortal soul? Let us grasp that, too, and we will have absorbed all things, both psychical and material; made them all the offspring of these miraculous gases, and thus become entirely independent of the "Unknown God!" And then, my fellow-members—what then? Why, thus, insensibly they will lead us from the altar of our wor-

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ship. They will turn our temples, now dedicated to the great Jehovah, into schools of human philosophy. They will erect statues to the goddess of Reason, and, like the heathen in his blindness, we too will bow down to wood and stone. They will burn incense to other gods than the one whom we are taught to adore. Then will have vanished from our hearts and our hearthstones all that makes life cherished and dear to us. Then will that beautiful code of deep-toned morality, that sweet system of unfeigned piety, the holy religion of our Saviour, be torn from our present lively faith, and we shall be plunged into a chaos of unbelief, which will leave us nothing but misery and despair. These materialistic philosophers, as a general rule, deny that they are materialists, but say that they are compelled to use such terms and words as are generally applied to *matter*, in order to make their speculations understood by others. To this we have no objection, but we contend that after borrowing these words, they still have *proved* nothing. After all of their elaborate and seductive arguments, they cannot explain to us what life is, nor can they ever make us understand the nature of a vital process. It is all speculation. They say, give us a few simple combinations of oxygen, hydrogen, nitrogen and carbon, and under *favorable circumstances*, an animal is formed. Now the *favorable circumstances*, to use a common expression, is just where the Almighty comes in and says, "let there be life," just as he did at the dawn of creation, when His sublime fiat went forth in the words "Let there be light, and the light *was*."

Do not consider me, gentlemen, as wishing to stop investigation. Let us use our faculties to the very utmost limits, leaving no part of nature undeveloped; subjecting everything to the closest scrutiny; taking nothing for granted that has not passed through the experimentum crucis, and giving to every explorer of a new branch all the credit that is due to him, as well as all the aid in our power. A single fact unknown before will be the fruitful parent of a thousand other facts, and the profession at large, as well as humanity itself, will be the gainers. The desire of all of us should be to simplify both the science and the art of medicine, so that in our day and generation we may be useful men, and leave to our posterity such indellible landmarks as may be of service to guide them in their usefulness to mankind. But if we love our profession, let each of us consider himself a sentinel on the watch-tower, to keep away from it anything that will leave a taint on its fair escutcheon. Some of us are teachers in institutions of learning; many are engaged in preparing the young for attendance in the lecture room; and each, however humble, has his influence over the aspiring and plastic mind of the youth committed to his charge. Let us see that they are not tainted with skepticism, while they are preparing themselves to practice a profession which carries them intimately into every household. The profession of medicine is fast raising itself to the highest dignity in the land. It has forced its own way to this ele-

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vated position by its own labors, and by the appreciation of such labors by governmental authorities. I see by late debates in the British parliament that it is contemplated having a medical bureau, with its chief as an officer of State, to rank with the Foreign Secretary, the Comptroller of the Treasury, and other cabinet officers. The dense population of Great Britain and of continental countries, requires a health department to look after the interests of the greatest blessing which Heaven has given to man. Our own country will follow their example, and we must use every endeavor to keep out of our calling anything that can attach odium to it in the minds of an enlightened and religious people. It is for these reasons that I dwell with peculiar emphasis on the tendency of modern investigators, and although I wish to give them the full meed of praise for their laborious and masterly discoveries, as the orator of your association, I wish to warn you not to be led astray by some of their *material* doctrines—not to be seduced, by a parade of human learning, on to those dangerous shoals of skepticism, where some of the noblest intellects that have adorned our science, have been wrecked and lost—perhaps forever. Physical science has its proper limits, beyond which it cannot go with safety. When it invades the domain of metaphysics, or going further still, attempts to unravel the mysterious thread of *life*, it treads on uncertain ground, and insidiously but surely calls on us to embrace opinions contrary to our intuitions, opposed to our convictions, and at war with our most cherished faith.

If the limits of this discourse allowed me to do so, it would perhaps be amusing for me to carry you into those fanciful regions, where these dreamy philosophers, after having cut loose from legitimate logic, have carried their romantic speculations. Going far back into the depths of Time, they pass over the gulf that separated the *solid* from the *molten* condition of our earth; and not satisfied with seeing the burning mass whirling in a *liquid* state through space, they go even back to the nebulous period of the planet, when it floated in the heavens as a fiery mist, and in this luminous and glowing ether, they pretend that everything belonging to this world existed. That not only was the matter of our bodies there, but that the sentiments and affections of our minds were also there, revolving as part and parcel of the lurid mass. Yea, further still; our emotions and our will existed there also in the glowing matter. So that the sublime poetry that has touched the heart of the nations: the holy expression that has beamed from the pious faces of the devoted saints: the tender love of the mother for her first born, as well as the thoughts that run through her mind when she feels it as yet to be pure and sinless as the angels of Heaven; that all this, I say, and everything else beside, whether of matter or of mind, was once, in the dim distance of the past, a mist of nebulous ether, floating in the immensity of space.

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In these wild regions of romance, where shall we find the ark of safety for our yearning and aspiring souls? If such be the tendency of the human mind, how fortunate indeed for us that the God whom their imaginations could not reach beyond the fiery cloud, came in to our rescue, and revealed to us a hope and a religion that the humblest can understand, and the most unpretending can cherish and adore.

Let me quote to you the wise counsel of one of the greatest among us; one who has penetrated deeply into all the branches of medicine and its collateral sciences; who has gone over the whole range of animal and vegetable nature, and made the clearest expose of the unity of design and the benevolence of the great Architect who framed the earth we live upon, as well as all other worlds that are contemporary with us, and that have preceded us. Listen to what this great physiologist, Dr. Carpenter, has to say on this subject:

"All of our science is but an investigation of the mode in which the Creator acts; its highest 'laws' are but the expressions of the mode in which He manifests His agency to us. And when the physiologist is inclined to dwell unduly upon his capacity for penetrating the secrets of nature, it may be salutary for him to reflect, that, even if he should succeed in placing his department of study upon a level with those physical sciences, in which the most complete knowledge of 'causation' (using the term in the sense of 'unconditional sequence') has been acquired, and in which the highest generalizations have been attained, he is still as far as ever from being able to comprehend that power, which is the efficient cause alike of the simplest and most minute, and of the most complicated and most majestic phenomena of the Universe. But when man shall have passed through that embryo state, and shall have undergone that metamorphosis in which everything whose purpose was temporary shall be thrown aside, and his permanent and immortal essence shall alone remain, then we are encouraged to believe his *finite* mind will be brought into nearer connection with the *infinite*, and his highest aspirations after truth, beauty and goodness, will be gratified by the disclosure of their source, and by the increase of his power of approach towards it. The philosopher who has attained the highest summit of mortal wisdom, is he who, if he use his faculties aright, has the clearest perception of the limits of human knowledge, and the most earnest desires for the lifting of that veil which separates him from the unseen. He, then, has the strongest motives for that humility of spirit and purity of heart without which, we are assured, none shall see God."

Leaving now this field of controversy which, to my mind, is pregnant with trouble, because it has a tendency to unsettle our belief on subjects far more important than the development of physical science, let me return to our profession.

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There is no department in which, within the last few years, a great amount of new and useful matter has not been added to our previous stock of knowledge. Among other branches, that of the eye, and the morbid changes to which it is subject, has been assiduously cultivated. Instruments have been invented by the means of which we can look into its hitherto dark chambers, and see much that is going on. These instruments teach us the appearance in health, and enable us thereby to see any departure from it. Our practice in some of the diseases of the eye a few years ago, was nothing more than empiricism, whereas *now* we have a key to the mystery, and can either prescribe with certainty, or else inform the patient that his trouble is beyond the reach of science, and thus save him much needless expense and anxiety. The nervous mass that lines the interior of the orbit often indicates the state of the brain, and it is only a few months ago that I witnessed in a northern hospital the efficacy of a treatment entirely suggested by the appearance of the optic nerve. The patient could not be made to sleep under the influence of any anodyne. A consultation on his case turned on the state of the brain, one of the physicians suggesting that there was probably a congestion. It was necessary, however, to be certain of this congested state; if not, positive harm would accrue from bleeding. The ophthalmoscope was brought into play to settle the question, and an examination into the interior of the eye, by means of this valuable instrument, revealed an active congestion of the optic nerve, which indicated the same state of the brain. The patient was freely cupped, and went quietly off into a profound and refreshing sleep. Diseases of other organs besides the brain may also be positively ascertained by means of the ophthalmoscope. Among such diseases in distant organs may be mentioned degeneration of the kidney. It seems strange that we are able to diagnose such a disease by looking into the interior of the eye, but it is nevertheless true that this is a means, and a very valuable one, in making out a diagnosis. Able practitioners are pushing their observations in this direction, and we may look for important suggestions in the rationale of treatment. These mechanical contrivances for looking into the interior of the body, are yearly becoming more complete, and it is at the present time quite possible to look some distance down into the windpipe, and even to photograph the appearance so as to convey it to the eyes of another. We can thus consult with an eminent physician in London or Paris, and send him by letter the exact appearance of the part we wish to submit to his more practiced eye.

In a former part of my discourse I have made allusion to the microscope. I will not occupy your time by detailing the great and important advance which our science has derived even within the last twelve months from this little instrument. Until the public mind becomes familiarized with these explorations into the unseen

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world, it would be like going into the regions of the marvellous, to detail to a mixed audience like the present, the revelations of the microscope. We may think that the eye would be satiated by looking through the telescope into the remote abyss of space and there to see stars, whose light travelling millions of miles per minute takes years to reach the earth; but that is as nothing to be compared with the world of animal and vegetable life on this earth which the naked eye has never seen. The rich array of colors presented by some of these microscopic objects under the influence of solar light, throws into the shade the most gorgeous sunset, or the sublimest conception which the artist's pencil ever transferred to canvas. Practical medicine has come in for a large share of benefit from microscopic research, and mankind at large are again the beneficiaries of medical labor employed in such investigations.

In the department of Gynecology the march of the profession has still been onward, and here, the fairest, may I say the purest and best part of our race, comes in for the largest share of the conquest. The researches into the diseases of woman have tended greatly to her physical and moral amelioration. We have been taught not only to cure many of her diseases which were before considered incurable, but in such investigations we have learned many of the peculiarities of her nervous system; we have been forced to pay the strictest attention to the sympathy that exists between distant parts of her organization, and as the consequence, can now make more allowances for her moral and mental phases than we were justified in doing before. If she has become more helpless in our eyes, she has at the same time gained upon our sympathies, softened our hearts, and compelled us to advise and instruct those on whom she is dependent, not to reason about her as they would about men, but on the contrary to bear with her apparent eccentricities, and to make every allowance for the occasional vagaries of her intellectual and moral nature. If modern medicine had done nothing else than to render more tolerable the existence of large numbers of women, it would deserve well of humanity; and it should be the constant aim of the profession to instil into the minds of men the idea, that the difference in sex makes a great difference both in thought and action. No one knows this so well as the humane and watchful physician. His experience and reflection both in the sick room and in society, have taught it to him, and it is his duty as her friend and counsellor to improve all occasions that offer to impress it on the other sex. This is the only way that men outside the profession can ever learn the true state of the case, for they must always be ignorant of that physiological knowledge which teaches the relation between body and mind, and forms the basis of our judgment in such important matters.

In taking a survey of our profession during the last twenty years, my attention is arrested at no point more vividly, than in the con-

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tinued advance of our Therapeutics. The late researches into the action of the nervous system, with all its sympathies both direct and remote, have modified to a very great degree, our previous opinions on the action of remedies; and I cannot help thinking with the present lights before me, that a new and important era in this line of the profession is dawning upon us. It is true that we cannot always transfer the phenomena witnessed by experiments on the lower animals, to the more finely developed nervous structure of man, and we are not to take it for granted, that because a certain effect is produced in an animal, that it will as surely be produced in man. The moral nature of man, with all his sentiments, his sympathies and his emotions, comes in as an element not shared with the lower animals, and hence a difficulty often occurs in reasoning from the one to the other. Still, it cannot be doubted that careful experiment has furnished us with some important facts. The controlling influence of the nervous system over all the vital processes, both in health and disease, is not to be ignored, and we do know that certain remedies do both depress and exalt nervous power. We can watch the transparent tissues of the living animal for instance, and see the capillaries dilate and contract by certain stimuli. We can then put this into practice on ourselves, and witness the same effect. It would be very interesting to relate some of these experiments if time permitted, and I feel quite assured as we improve in our pathology, we will make greater use of remedies more directly addressed to the nervous system. This will be much more satisfactory to the patient than to the apothecary, for it will necessarily lessen in quantity the doses that we are in the habit of giving. The great and important advantage that we daily derive from both cold and heat in our practice, is to be referred to the controlling power in the *nervous centres* on *distant* parts where disease is committing its ravages. They both act upon the capillaries through nervous influence besides having an important effect on animal heat. The experiments of Harley and others have greatly enriched our stock of knowledge on this subject, and we are witnessing the sound philosophy of their deductions. I look forward with certain hope that the day is not far distant, when our therapeutics will be much simplified, will be more in accordance with ascertained facts, and will be addressed mainly to the nervous system. Surely this part of our organization is the moving spring of all our actions, and is rapt in the profoundest mystery. It is of no use to attempt to explain what is beyond the comprehension of man to understand. Probably in some other stage of existence, some *higher* sphere in which we may hereafter live, we may be able to comprehend more clearly, what we now see through a glass so darkly.

Now, gentlemen, this is the science, studied fostered and matured through successive ages, that within the present century has been degraded by the score of vagaries, which play upon the credulity, and

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insult the intelligence of the present enlightened generation. Men, nay whole communities, are found, who either ignorant of, or forgetful of, or blind to the great principles which have been conceived by philosophy, substantiated by fact, and established by experience, are willing to be led astray by novel systems, and trust their lives to designing and artful men, whose intelligence on all other subjects they have no respect for, whose standing they do not acknowledge, and whose society in social life they absolutely refuse. In the whole history of those individuals who reject the established theories of medicine, is there a single man to be found who has a philosophic mind, an enlightened conscience, and an honest heart? Not one. While hundreds and thousands of the regular faculty, with all these great traits of human character combined, have graced every century, and adorned particularly the last two hundred years, not one single enlightened and conscientious philosopher has practiced or promulgated the false systems that have occasionally taken possession of the public mind, and carried their thousands to an untimely grave.

But, gentlemen, we must not grieve or despond over this. It is founded in human nature, and is part and parcel of that general imperfection which belongs to the mental structure of our race. If men are found who are willing to sacrifice their physical existence to a new system of medicine, they, also, are found, and in large numbers, too, who embrace with enthusiasm some false and mysterious religious doctrine of the day, at the risk even of losing their immortal souls. We should not then complain, but pursue with steady purpose the study of our science, and leave no stone unturned to develop its truths, and to perfect its practice. We know what is right, and it is our duty manfully to do it. Let us not be depressed because impostors reap the reward that we are honestly entitled to. It is but gold that they acquire; gold, sordid and perishable as themselves. Let them have it and enjoy it—but what is that enjoyment compared with the one which flows from rectitude of character and honesty of purpose? They have no green spots to dwell upon in the memory of the past. They have no nobleness of character which makes an honest man proud of being born in the semblance of his Maker. They have no reputation to enjoy while they live—no honorable fame to leave to their posterity when they die. He who would sacrifice the dignity of his nature for the creature comforts that can be purchased with money, is rather to be pitied than to be despised. Let us leave them to their idols, to share the mingled feelings of pleasure and remorse that flow from its worship.

For us there is a higher task left to accomplish. Deeply impressed with the value of interchanging our opinions, and of pursuing a methodical plan for the advancement of our science, we have associated ourselves in order that we may have concert of action. By

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united efforts we have already done much, and there is before us a beautiful field in which to labor; but *labor* must be our watchword. This splendid fabric which we have received from our ancestors must not be neglected by us. It has now reached so far beyond anything that it has hitherto attained, that it may be almost considered complete; but the beautiful fret-work with which modern science has ornamented and adorned it, is of perishable material, and it will rust and decay unless it be kept bright and polished by our efforts. Nor is there anything that will avail us but continued action. Many of you are young and capable, and you must discard your apathy, and take an interest in your pursuits. One or two individuals among us can do but little. True, they may be glowing with ardor, energy, and enthusiasm, and may be bright by nature and education, yet their labors will be but a drop in the bucket. The combined energy in full of the association will be requisite. And, gentlemen, we have encouragement from many and from high quarters. Our volume of "Transactions," published last year, has been hailed with pleasure and satisfaction in every direction. Medical journals have made various extracts from its pages, and we have been much complimented for the interest we take in the elevation of our profession. This interest must be continued, and we must yearly be more industrious and more vigilant. Our profession in the South is liable to attack from so many quarters that unless it has some stronghold—some citadel like the present association, it must suffer and languish. The spirit of the age is onward, and the tocsin of reform is now sounding throughout all human society. As you have seen, no class of men is making more strenuous efforts for advancement than the medical philosophers, and we, here in Alabama, should not be behind the times; but while we are in the field let us be energetic and active. It requires no very prophetic eye to see that a bright destiny awaits our State. Her legal men already stand high before the country as eminent jurists; her planters are yearly developing her agricultural resources; her merchants are opening new avenues to wealth, and pushing her commerce in every direction; her miners are daily raising from her bosom the rich stores that have been hidden there for centuries. Shall we alone be behind the times, and suffer our profession to languish, and thus deny ourselves the position that we deserve? Shall we still let the syren voice of indolence woo us into her haunts of idleness, pleasure, and amusement, where the whole experience of the past has taught us that we can find nothing except that which will cloy the senses, clog the understanding, and poison the heart. Is there not enough of interest in the profession to arrest a large share of our time and attention, and to induce us to devote it to the development of our science and the perfection of its literature. Who can tell the influence which this association may possess when its present membership shall reach to four or five hundred; and who is there that can prophesy the immense amount of benefit to society at large

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which that noble institution, the National Medical Association, will be productive of if it is *properly* managed, when its present eight or nine hundred members shall swell to as many thousands, gathered together in scientific conclave from every portion of our land—from Maine to Mexico, and from the Atlantic to the Pacific shore.

I would be doing violence to my own feelings and injustice to her were I not before I close to pay a passing tribute to woman. Amid the toils, the troubles, the anxieties of our laborious profession, we would often become heart-sickened and discouraged, were it not for the fact that our services are keenly appreciated by woman. Whatever is lofty in sentiment, or touching in emotion, or tender in sympathy, finds a welcome reception in her responsive bosom. She does not mingle with the world to become cold with its icy touch, but is ever warm, and gentle, and affectionate. Man may forget the hand that administered to his relief; the daily visit that guarded him in his infirmity; he may think the debt is discharged and the obligation cancelled by the remuneration from his purse. But woman deals not thus. Her heart will never permit her to forget the being who endeavored to smooth the couch of her affliction by relieving her from pain. It will never allow her to forget him who watched her infant child, sympathized with her in its suffering, rejoiced with her in its relief, or if the fatal stroke must come, and the angel spirit too pure for earth must return to the bosom of its God, ever present in her memory, and not forgotten in her prayers, is the kind friend who was present to do all that he could, and who would have saved, had not the mandate gone forth which rendered him as helpless as the dying babe itself. Even the youngest among us would dislike to forego the pleasure that lights up his bosom by the remembrance of the gratitude of woman. The anticipation of that which is still to come is sweet—the memory of that gone by is among the brightest spots of his professional career—the green oases in the desert of the past.

Members of the association, by the diplomas which we have received from our *Alma Mater*, a small portion of the temple of medical science has been entrusted to our care. Let our association be faithful to its trust, and keep its share of the beautiful fabric bright and polished. Beneath its domes and spires, within its sacred walls, is taught one of the noblest of all the professions; one of labors and fatigues, but of heartfelt sympathies and extended charities. One that relates to MAN himself; man, who is so fearfully and wonderfully made; who from the cradle to the grave, in all his functions, moral, physical and intellectual, is so strange and so mysterious; man, whom God did not hesitate to mould after His own form, and whose spirit He has thought worthy of an immortal habitation.

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REPORTS

ON THE

DISEASES AND SURGERY

OF THE DIFFERENT COUNTIES IN THE STATE OF ALABAMA.

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REPORTS

FROM THE COUNTY OF AUTAUGA.

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DISEASES OF PRATTVILLE AND VICINITY.

BY S. P. SMITH, M. D., OF PRATTVILLE.

The following is a concise history of the diseases of Prattville and vicinity during the past year: In December, 1869, January and February, 1870, we had an extensive epidemic of catarrhal fever. The majority of the cases differed but little from ordinary bad colds, and were amenable to the usual domestic remedies. We had during this term some cases of pneumonia and bronchitis, and I saw five or six cases of meningitis, some of which proved fatal in a very short time. The following case I give as a type of the most violent in the latter complaint: Mr. S——, aged 21 years, a strong, robust, healthy young man, was taken early on the morning of the 4th of January, 1870, with a violent chill, which was followed in the course of two hours with high fever. Towards evening he was a little wandering, though not delirious, vomited several times during the night, and had four or five copious involuntary actions from bowels, thin, watery, and tinged with bile. I saw him for the first time at 6 o'clock, A. M., January 5th. Condition: patient pulseless, extremities cold, great capillary congestion, bathed in a cold, clammy perspiration, breathing hurried and difficult, movement of heart rapid and very indistinct. Mustard plasters were applied the whole length of spine to extremities, chest and bowels. They drew well, vesicating in a number of places. Stimulants were given freely, and artificial heat with incessant friction applied without producing the slightest symptoms of reaction. He continued to sink, and died at 1 o'clock, P. M. Within a week three other cases died with symptoms very similar. This epidemic continued in a modified form until the 1st of April.

About the 10th of March measles broke out in our village, and continued to a greater or less extent for the space of three months. During the eruption stage, the fever and catarrhal symptoms were very violent in the majority of cases, but after a few days these gave way and the patients recovered readily without those unpleasant sequelæ, dysentery and diarrhœa, which so often follow an attack of measles, notwithstanding an epidemic dysentery was prevailing at the time. The most remarkable feature, however, in this epidemic, was the great number of persons affected the second time. The first cases which occurred in town were a father and two children who had suffered severely with measles only five years previ-

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ously. Indeed, I saw during the summer a dozen or more well marked cases occurring in persons of undoubted veracity, who informed me that they had been affected similarly at a previous time. These cases were just as severe, as a general thing, as were those affecting persons for the first time.

We were visited again this year with an epidemic dysentery, commencing in May, and running through June and July. It was not so extensive or violent as the year previous. I generally commence the treatment with from five to twenty grain doses of blue mass, and one to three of opium, followed in a few hours with soda, and epsom salts in proportion, one to eight. Of the latter, 2 drachm doses are given at short intervals until free catharsis is produced, after which opiates with some mild astringent are sufficient for relief in ordinary cases. In the lower grade characterized by a cold, moist skin, with feeble pulse, oil and turpentine as a cathartic act more favorably. In such, after the action of the cathartic, the mineral acids with laudanum act better than the vegetable astringents. In attacks with high febrile excitement accompanied with nausea and vomiting, full doses of calomel, say twenty to thirty grains, will in many instances act like a charm. In the more protracted form, when it is necessary to use enemas, I have used nothing so soothing as an injection of sweet milk and morphine. Counter-irritants of some kind are never to be omitted in the treatment of this affection. Warm poultices with turpentine stupes are very useful in all the milder cases, but in the severer, when tenderness and a disposition to tympanitic enlargement are apparent, blisters are absolutely necessary. In the still graver form, with symptons of high febrile excitement, bags of ice to stomach and bowels are to be preferred to all other remedies.

In July and August we had a few cases of remittent fever, generally mild and easily managed. In September and October, intermittent fever was most prevalent. Almost every case during these two months was accompanied during the cold stage with violent vomiting, succeeded in a short while by a copious, serous diarrhœa. A mustard plaster to epigastrium with a quarter grain dose of morphia internally, generally sufficed to quiet the stomach, and a few doses of calomel, from one to five grains, readily controlled the diarrhœa. As soon as the paroxism passed off, quinine was tolerated and readily controlled the fever, so that this complication gave me but little trouble in the management of the disease. I have seen only six cases of hemorrhagic malarial fever during the season, one in September, one in October, three in December, and one in January of the present year. These were all in persons who were subjects of chronic chills. Only one case proved fatal. A lady who had suffered for several months with chills, had become weak and anæmic, was taken on the 5th of October, early in the morning, with a violent hemorrhage from the kidneys. I saw her at 10

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o'clock, P. M. She was then almost pulseless, with constant retching and vomiting, and so much exhausted that she could not raise her head without fainting. She had so much irritability of stomach that she could not tolerate any thing like medicine. Ice could not be procured until too late to avail any thing. Counter-irritants, friction, turpentine, brandy, &c., were the only remedies used, and they availed nothing, as she sank rapidly and died in the course of a few hours. In all my cases the hemorrhage came on simultaneously with the chill. In the treatment of this grave disease, I regard the cathartics as highly important in the commencement, and when the stomach will retain them, prefer the saline, such as seltzer, seidlitz, &c. There are many cases, however, that will not tolerate even as pleasant a remedy as a seidlitz powder, and in such, a dose of calomel will often be not only tolerated but have the effect of quieting the stomach for hours at a time. During the intermission, quinine with turpentine I regard as indispensable, but when these remedies cannot be given internally, I have used the following unguent with the happiest effect. Recipe: sulphate of quinine one drachm, spirits terebinth half an ounce, lard one ounce. This quantity is thoroughly rubbed over the whole surface and repeated every four hours. I have seldom failed to arrest the paroxism in this way.

Following the very cold weather in December we had a few cases of pneumonia. The most of those I saw were subjects of chronic chills, requiring a tonic, supporting treatment. Quinine with acetate of ammonia I consider as standing at the head of the list of remedies in this form of the disease. When there is a tendency to diarrhœa, with dryness of tongue, turpentine emulsion with carbonate of ammonia, acts more favorably. As counter-irritants in the formation stage of pneumonia, turpentine stupes, with flannel or silk jacket, are very serviceable, but in the more advanced stages of congestion and hepatization, free blistering I regard as absolutely indispensable.

From the middle of December to about the first of March of the present year, we had quite an extensive epidemic of roseola in Prattville and vicinity. About four-fifths of those attacked were adult females. I saw one adult male, and two or three boys with the disease during the epidemic. In children the cases were very mild, not sufficient to confine them within doors or prevent them from engaging in the ordinary sports of childhood. In the majority of cases, even with adults, there was but little constitutional disturbance. Slight febrile excitement, soreness of throat, with more or less bronchial irritation, were the symptoms mostly complained of. These continued for a few days and passed off, leaving the patient in usual health. The severer cases, however, were ushered in with chilly sensations, followed by high fever, sore throat and cough. In some the bronchial irritation was so severe and harassing as to pro-

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duce the impression on the minds of the patients that they had contracted measles. So firmly were they impressed with this belief, that it was a difficult matter, in some instances, to convince them to the contrary. In another class of patients, wherein the disease was most protracted and entailed the greatest amount of suffering, the symptoms were totally different. There was soreness and stiffness of the muscles of the whole body, with violent neuralgic pains in the back, and painful swellings of the joints of the superior extremities, especially of the wrist and finger joints. These were the most protracted of any I saw, lasting in some instances twelve to fifteen days. The subjects of this particular form were females of sixty years, and upwards, and, as a general thing, I found the gravity of the symptoms in proportion to the age of the patient. The eruption in most of my patients was characteristic and well marked. In some cases, however, the eruption consisted of small rose spots, thickly studded over the whole surface, with deep red specks in their centres resembling flea bites. Treatment: The majority of cases required but little interference, but in the more virulent form, mild cathartics were beneficial in relieving febrile excitement. For the sore throat, I saw no case that did not yield readily to some simple astringent gargle. The catarrhal symptoms were easily combatted with Dover's powder, administered *pro re nata*. For the neuralgia and tumified joints, liniments containing laudanum and chloroform were used locally with advantage. To quiet pain and restlessness, it was necessary to use opiates freely.

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REPORTS

FROM THE COUNTY OF CONECUH.

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DISEASES OF CONECUH COUNTY,

BY S. S. FORBES, M. D., OF BELLVILLE.

The object of the association being the advancement of medical science, it matters not from what source reports come, or their precise data, provided they are instructive and cases of interest. With this view I beg leave to report four cases of cancrum oris, which are all of that disease I have met with in an extensive practice of fifteen years. I trust they will be acceptable.

1862.—Case First.—Wright, aged twelve years, the son of a farmer of sufficient means, but a poor provider, was convalescing from a severe attack of typhoid fever, in which he was treated by Dr. C——. His father came for me to attend him August 21st, but being engaged, I asked for a description of his case, promising to go the succeeding day. His reply was as follows:

"Wright has been very sick with fever, but was getting better. Yesterday a very red spot came over his right cheek the size of a half dime. To-day it is twice as large, and if possible still redder."

According to promise, I visited him, and found a circular patch as the father described, except in color, which had changed from red to black, or in other words it was gangrenous. I prescribed chlorate of potassa, internally, and touched the inner surface of the cheek with a solution of nitrate of silver. 23d.—Again visited him, finding the line of demarkation fully established, an inch and a half in circumference. Continued treatment. 24th called again, found sloughing had taken place. A plug was nearly thrown out, exposing both the upper and lower jaw bones, fortunately missing the angle of the mouth by a line.

At my next visit the orifice was clean, and healthy granulations were springing up. He was, to all intents and purposes, well. Since that date I have heard nothing from him, as they soon left the State.

Case Second.—Kate, aged nine years, taken with dysentery, in which disease I attended her, and from which she recovered in twelve or fourteen days, very much exsanguinated and debilitated. In ten days after I had discharged her, a messenger came for me to see her, saying that she was badly salivated. If such were the case, I knew it was not produced by mercury, as I had not given her any. Upon visiting and examining my patient, I found the jaw laid bare, three teeth and a portion of the upper jaw-bone were

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necrosed so much that I took them away without any force. I touched the inner surface of the mouth, ulcerated, with nitrate of silver, gave chlorate of potassa, and my patient recovered like a charm without further trouble.

Case Third, 1865.—B. B——, aged forty-five, had been a private in the army for two years previous, had had chills and fever for six months, for which he had taken large quantities of arsenic, judging from his appearance, which was an anasarcous anæmic and accompanied with general debility; called to see me about an ulcer on his lower lip. I prescribed nitrate of silver externally, and gave chlorate of potassa, which remedies were used about a week without any improvement. Despairing of relieving him with the nitrate, I concluded to try cupri sulphus, and am happy to state that in three or four days there was a decided change for the better, and in ten days from the time he commenced using the cupri, he was well, but with a lip considerably disfigured.

Case Fourth, 1870.—Was called to see a Mr. D——. While there Mrs. D—— asked me to examine a negro girl eight years old, who was so badly salivated she thought she would die. (She had taken a dose of sub. hyd. a week previous.) Her gums were not swollen or elongated, and the mercurial odor peculiar to ptyalism was absent. There was an ulcer on the inner surface of the cheek far back at the angle of the jaws, so deep that the skin on the surface of the cheek was becoming seriously involved. I was afraid this case would terminate as case first did, by sloughing, and give her an extra mouth near the ear. I informed Mrs. D—— that she was mistaken in her diagnosis of the case; that it was not ptyalism, but cancrum oris. I touched the ulcer with the solid stick of nitrate silver, prescribed chlorate of potassa freely, and in a week's time she was quite well. Prof. Wood says, in regard to cancrum oris: "It generally occurs in children from two to six years of age, debilitated habit of body, arising from deficient or improper food, bad air, want of cleanliness, &c." It will be seen that three of the above cases were, according to Prof. Wood, previously fitted for the ravages of the disease.

In conclusion, case second and fourth, who were reported to me as being badly ptyalined, were cases of cancrum oris, or, in other words, there was a mistake in the diagnosis by the friends of the patients.

Such being the case, I would ask the profession if it is not reasonable to suppose that from the ignorance of disease, and through prejudice against mercury, that many supposed cases of ptyalism are in reality cancrum oris?

Mrs. G——., aged twenty-seven, under medium size, was taken in labor with her first child, after a ride of forty miles, November 13th, at midnight. The pains were irregular as to time and severity, until breakfast, when they ceased altogether, and she remained comfortable till the following morning at 2 A. M., when I was again

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called. The labor progressed steadily, and at 9 o'clock A. M., she was delivered of a child weighing eleven pounds. After separating the child from its mother, and giving it to the nurse, I turned my attention to the mother, and, as is always my custom, placed my hand upon the womb to ascertain if it was contracting sufficiently for me to take away the placenta. I thought the womb contracted enough to have expelled or thrown it off into the vagina, but imagine my surprise when, with my right hand grasping the chord, my left the womb, the slightest traction on the chord produced a downward movement of the womb, so much so that I desisted. I then introduced my hand into the vagina, where I found three-fourths of the placenta while the other fourth with the chord were within the womb, and attached to it. I made an effort to break up the adhesion, but it gave her so much pain that, as there was no hemorrahge, I concluded to wait for nature, believing there would not be so much danger from inflammation, and after trouble, arising from non-interference, as in the rough manipulations required in its removal. I therefore broke up and took away only the three-fourths in the vagina. I watched my patient with anxious care, when on the third day all was expelled, and she recovered without an untoward symptom. The points of interest in this case are first: There was no hemorrhage, though a portion of the placenta remained in the womb with the chord attached and lying in the vagina, which is an exception to the general rule. Second.—That the case should have terminated favorably without inflammation or fever.

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REPORTS

FROM THE COUNTY OF DALLAS.

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SURGERY OF SELMA AND VICINITY.

BY A. S. GARNETT, M. D., OF SELMA.

In accordance with the task imposed upon me, I now present you with a report of the surgery and surgical diseases treated by the members of the Selma Medical Society. And before doing so, I must beg your indulgence for the inadequate manner in which the task is performed.

Harpocrates, the Egyptian God of Silence, was represented with finger on lip, and may be considered one of the few heathen deities worthy of imitation. "Be swift to hear and slow to speak," is an apostolical injunction impressed upon us by the reiative organs of hearing and of speech. As expressed by Zeno, "Men have one tongue and two ears, and should hear much and speak little." The example of the God, and the precepts of the Christian and the philosopher, combine with a natural, unaffected difference on my part, in attempting to produce such a paper as might prove interesting or instructive.

I cannot be charged with exageration, I think, in claiming for our profession, that no other presents a wider field for thought, or includes topics demanding more intelligent investigation and research. The modesty and self-distrust of some individuals draws a veil over their fine intellects, and varied experience and accomplishments. Others of great professional learning and research acquire habits of silent thought, the expression of which becomes difficult amid the increasing cares and toils of a physician's life.

The following cases are reported by Dr. L. E. Locke:

Case First.—On December 14th, 1869, I was called to see Bella, (octoroon,) aged 26, with a fracture of the leg, the result ot a fall from a height of fifteen feet. An examination revealed the tibia and fibula of the left leg fractured transversely, about two inches above the maleoli; and also an oblique fracture of the tibia at the junction of its middle and upper third, with a dislocation of the ankle joint. I put the patient under the influence of chloroform, (Dr. H. N. Roper assisting,) and reduced the dislocation and fracture by extension and manipulation, applying a roller bandage and straight board splints, well padded with cotton, as a temporary dressing. The dressing was hastily applied at night, under extremely difficult and trying circumstances, and I intended on the next day to remove

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it for a better and a more permanent one; but on subsequently visiting her, and ascertaining the absence of tumefaction and severe pain, I concluded to leave her in *statu quo*.

January 1st, 1870, removed the splints, bathed the leg in camphorated spirits, and reäpplied the dressing. January 7th, some ulcerative tendency manifesting itself, I made the following application: R. carbolic acid 10 grains, distilled water 4 oz., and then encased the leg in an accurate mould of book-binder's board, and kept it in position by a roller bandage. This was done by first wetting the board and moulding it to the leg, and letting it dry *in situ*. When thus used, it makes a capital splint, being strong and uniform in its pressure and support. For the first five days, this patient was kept quiet with morphine, and during that time no application of any kind, save the splint and bandage, was made to the fractured limb. Her vital powers were supported with stimulants, and a nutritious diet. Result.—Perfect recovery with no perceptible shortening.

The novel feature in this case arises from the fact that this woman was three months advanced in pregnancy at the time of the accident, and that she went to her full time, giving birth to a healthy and vigorous child. That a woman should receive so severe a shock and sustain so serious an injury without detriment to the contents of the womb, must be without a parallel.

Case Second.—B. S——, child, aged three months, with veinous tumor on the occiput. This child had been treated in the country by a physician who cauterized the tumor and dressed the eschar with simple cerate. When I first saw the patient, the tumor, according to the history given, had greatly enlarged, and was discharging a dark, bloody fluid, which, when permitted to dry, formed a hard, irritating crust on the scalp, productive of much pain and annoyance. Having the diseased surface washed and cleansed, I applied a paste of glycerine and sub nitrate of bismuth, which had a most happy effect, causing a most speedy cure. I have tried this paste in many instances, and for indolent suppurating surfaces I know of no application which acts more promptly and kindly.

Milton K——, aged thirty, with a compound comminuted fracture of left arm, result of a railroad accident. Twelve hours after injury I amputated the arm at a point two inches below the elbow. On the fourth day after operation, a tendency to slough manifesting itself, I ordered a lotion of carbolic acid and zinc, and cold water dressing. On 15th day after operation, removed ligatures, and the patient improved rapidly.

The following cases are reported by Dr. C. F. Fahs:

Case First.—Millie Stafford, aged about twenty-three years, colored, married three years, never had a child, severe dysmenorrhea of two years standing; attributes it to a bad cold taken at that time, it being her menstrual period; says her courses always lasted a week or more; small in quantity, often pale in color, and the pains so

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violent she was compelled to go to bed and take large doses of morphine for relief. Pain always commenced several days before the flow began, and increased as it approached. She was pale, emaciated, and complained of debility and want of appetite. Examination by speculum showed that the cervix uteri was elongated and indurated, and the os was not more than an eighth of an inch in diameter. With the aid of my accomplished friend, Dr. W. P. Reese, I performed Sims' operation of dividing the cervix bi-laterally, to overcome the stricture. The cervix was an inch and a quarter long, by three-quarters of an inch in diameter, and was divided to a quarter of an inch of the reflection of the vagina. The hemorrhage was slight, and the pain not at all severe. No fever or any other bad symptoms followed, and she was walking about as usual on the third day. The operation was performed on the ninth day of March, 1867, and on the twenty-first her menses returned. They were not preceded by any pain, and she said she was not aware they had come on until she accidentally discovered the blood. The flow was very full, and of a healthy color. In the night she had some paroxysms of pain, and says some clots came from her, almost black in color, and very hard. On the 22d, slight pain during the morning; free flow, no pain in the afternoon and night. On 23d, says pains, in paroxysms, returned again about 4 A. M., and that black, hard clots came from her similar to those described above. By 10 A. M. they disappeared entirely, and did not return. The flow continued until the 25th, when it ceased, having lasted little more than four days. She says she has never menstruated so freely before; that she has no more weakness in her back; feels stronger, and like a different person. She says before her menses came on this time, her uterine region was enlarged, and her breasts swollen—due, without doubt, to retained menses. I think the paroxysms of pain were due, they having coagulated, and the clots being too large to pass the stricture. I believe the operation has been entirely successful, and that at her next menstrual period, she will have no pain. Her barrenness, I think, was due to the physical obstructions named, and that she is now very likely to conceive.

Case Second.—Frances Stevenson, aged twenty-eight, colored—married two years—barren; has had severe dysmenorrhea for more than two years, and her general health very much impaired. The menstrual discharge was very small in quantity, and generally pale in color. The paroxysms of pain preceding and accompanying the menses, very violent, requiring her to lie down, and take large doses of opiates for relief. Her general health finally became so much deranged that she had to spend most of her time in the bed. By a speculum examination, I soon discoved that she had an indurated conical cervix, with a contracted os. I attempted to pass a very small bougie, but only succeeded partially. The pain and irritation were so great that I feared pelvic cellulitis would follow, and I con-

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cluded to perform Sims' operation. By measurement the cervix was one inch long, and gradually come to a point, the os occupying the centre. On the 10th of March, assisted by Dr. W. P. Reese, I made a bi-lateral division of the cervix, to a quarter of an inch of the reflection of the vagina. More hemorrhage followed than in the other case, but not at all alarming. She remained in a recumbent posture. In five or six hours pain began to be developed in the uterine region, which steadily increased until fomentations were applied, and opiates administered. 11th.—She rested badly last night; still complains of pain; pulse frequent, skin hot and dry; prescribed a purgative, to be followed by an opiate, and the fomentations continued. 12th.—Improving; pain less severe, and fever subsiding. She continued to improve from day to day, and in four or five days after the operation, she was sitting up. I omitted to mention that in this case, after dividing the cervix, I introduced Simpson's sound into the cavity of the uterus very easily, showing that the stricture had been overcome. She was now put on a tonic treatment, and rapidly gained flesh and strength; her spirits improved, and she said she could walk without having pain in her back, or feeling fatigued. March 21st.—Her menses returned without the slightest pain, pure blood, she said, and a free flow, which continued two days. At this time she is enjoying as good health as she ever did in her life, and seems to be restored to a condition in which all her functions may be regarded as fully and physiologically developed.

Case Third.—Case of gun-shot wound of right thigh, two inches below the groin. The femoral artery was cut, and the hemorrhage was very profuse, but was arrested by the attending physician by compression. I did not see the case until one week had elapsed, and then his whole condition was very bad. There was no suppuration, and the whole system was very much prostrated. He had phthisis, and, finally, after five or six weeks, he died of the latter disease.

Case Fourth.—Case of necrosis of the spine of the scapula. The patient, a white woman, aged about thirty, has had primary and secondary syphilis. The disease was in the central part of the spine of the scapula. I enlarged the opening leading to the bone, and cut out the diseased portion by means of bone forceps. The case has entirely recovered.

The following cases occurred during the months of January and February, 1871:

Case First.—A negro man was accidentally shot by a companion in the early part of January. The ball entered the abdominal walls, several inches below the sternum, and to the right of the median line. It ranged down towards the cavity of the pelvis. I found the patient very much prostrated, and suffering a great deal of pain. I ordered him to be kept perfectly quiet, and gave him a full dose of morphine. My prognosis was unfavorable. He died in less than twelve hours.

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Case Second.—J. L. K.——, fell from the iron bridge of the Selma & Montgomery Railroad, that crosses the Alabama river. The height was thirty-five feet. He fell headforemost, and fortunately threw out his arms, which saved his head from striking a stringer. The violence of the fall resulted, however, in producing a fracture of the left radius and ulna of the right arm; fracture of the left radius and compound dislocation of the left ulna at the wrist. All the fractures were near the wrist joints. I reduced the fractures and dislocations, and applied two splints to each arm, extending from the ends of the fingers to the elbow joints. As he suffered very violent pain, I had to keep him under full doses of opiates for the first few days. He improved very rapidly, and at the end of three weeks I sent him to his home, at Dalton, Georgia.

Case Third.—A negro child, fifteen months old, got on the Selma, Rome & Dalton railroad track as an engine was backing down to the depot, and had his right leg cut off just below the knee. I amputated in half an hour afterwards, about two inches above that joint. He bore the operation very well, and has had no bad symptoms since the accident occurred. It is now about three weeks since I operated, and the child is nearly well.

The following cases were reported by Dr. B. H. Riggs:

Case First.—Patsy McDonald, colored, chronic conjunctivitis; transparency of the right cornea very much injured, almost blind in this eye; there was also some opacity of left cornea; photophobia severe and constant headache; attributed her disease to cooking with cooking-range; had been under treatment in Mobile; disease of three months standing. I put her upon the following treatment, with the result of a rapid cure: Collyrium of corrosive sublimate one grain to four ounces of water; mix thoroughly, let it stand for twenty-four hours, then strain through fine muslin; a crescentic blister behind each ear; slippery elm meal poultices to be kept constantly applied to eyes, renewing them three or four times a day, and using the collyrium between times. Take at bed time 10 grains of Dover's powders, and five grains of nitrate of potass: to take three times a day a pill of—quinine two grains, calomel one-half grain and ext. hyosciamus one-half grain, before meals. These were kept up until the gums were slightly "touched," diet farinaceous, and to keep strong light excluded. Progressed steadily to recovery.

Case Second.—George Garrett, freedman. The index and middle fingers of his right hand were so lacerated and torn as to require amputation. With the assistance of Dr. S. H. Hudson, who administered chloroform, I amputated these two fingers, making a long flap on their surface, severing the bones just above the second joint, bringing the flaps over their ends and sewing them to the dorsal skin. Dressing of cold water, adhesive straps used, the digital ar-

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teries were not large enough to require ligation, no secondary hemorrhage. Twelfth day, patient in fine condition and stump healing rapidly.

I merely desire to repeat the following case as possessing some features of interest:

Philip Boyle, a mulatto boy, aged about 18 years, whlle out hunting, clubbed his gun and struck at a dog; the breech struck the ground with such force that the gun was discharged, and the whole contents of one barrel, duck and bird shot, was received into his left thigh at the lower third, ranging obliquely upwards. This was about noon on November 30th, 1870. I saw him about dark the same evening. Found him with a compound comminuted fracture of the lower and middle third of the femur; the soft parts were very much lacerated and contused, and the quantity of blood lost was large, thereby evidencing the probable wounding of the femoral artery, or some one of its large branches. It was determined to amputate. With the efficient assistance of Drs. Fahs and Hudson, I removed the leg at the middle third of the thigh by the circular method, the patient being thoroughly under the influence of chloroform. The muscles retracted more than I anticipated, and I was compelled to apply five (5) ligatures to bleeding arteria! vessels. The patient did well. Most of the stump healed by "first intention." The ligatures were very slow in separating. The first ligature was removed on the 27th of December, nearly one month from the date of amputation. The second ligature came away on the 5th of January, succeeding. The three remaining ligatures, on the femoral, the profunda, and anastomotica, never came away at all! By this time, almost complete union of the flaps had taken place, and the stump was well, thus catching these remaining three ligatures and binding them down fast in the stump; towards the latter part of January they broke off, at different times, just where they came through the integuments. The parts of ligatures remaining caused no inconvenience. The stump was not sore or in any way painful. The patient rapidly improved in health, flesh and strength, and, in fact displayed a remarkably rapid physical growth. I take it, the lesson to be learned from this case is, that we need not be uneasy about the tardy removal of the ligature in amputations. It has been recommended by Drs. Hennen & Lizars, to cut off both ends of the thread near the loop inclosing the artery, as we now cut off one, and close up the flaps regardless of them, leaving them to be removed or not as nature sees fit. I do not know but that it would be very sound practice in many cases. It has now been two months that these ligatures have remained harmlessly in the stump of this patient.

The following cases are reported by Dr. W. P. Reese:

Case First.—Extirpated a small encysted tumor beneath the left

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ear, over parotid gland. Subject—negress, copper colored, age 37. Two years ago her attention was directed to it; the last two months it has given her considerable pain, the pain extending from this point to the left eye. Chloroformed. Simple incision. I found the tumor fibro-cartilaginous, 2x1½ inches. Hemorrhage was profuse for so small a cut. Brought wound together with three silver wire stitches, and excluded the air with isinglass plaster. The operation was performed on the afternoon of the 10th of January. The hemorrhage was troublesome; considerable tumefaction; did not heal kindly in consequence.

Case Second.—Mrs. B——, age 44 years. Has been troubled in all of her pregnancies with varicose veins. About four years ago, the parietes of the internal saphena of right limb had become so attenuated that it was ruptured. The hemorrhage was alarming, but was readily controlled by compression, but as the point of rupture had a tendency to ulcerate, the vein was closed by ligating with silver wire. This produced considerable constitutional disturbance, but the wound [ulcer] soon healed, and I expected no further trouble. Complete closure was secured only pro tempore. On the 15th of December, 1869, the vein was ruptured again, about two and one-half or three inches above the point before ruptured. The hemorrhage was immediately stopped by compression, and the circulation nearly entirely shut off; patient's general health was bad, and it was not until the 15th of January that she consented to have the operation performed. I had intended to operate according to Bozeman's plan, (undoubtedly the best) but the vein was large and tortuous, patient very timid: so I performed the old fashioned pinning, with figure 8, at the suggestion of my friend, Dr. Riggs, who was present. Left a weak solution of morphia, to be given in small doses every 30 minutes, until patient could rest well; perfect quiet enjoined; 36 hours after, removed the pin; and for fear that firm adhesion had not taken place strapped firmly with good isinglass plaster. The constitutional disturbance was much less than in the previous operation. The ulcerated point is healing rapidly, and the operation promises to be a success. If it does not succeed, I shall try Dr. Bozeman's plan. Eve's canula needle would do well to do this operation with.

January 24th.—Has bled freely from the old orifice; tied vein above and below with silver wire; passed one of them quickly and pleasantly with canular needle, which my friend, Dr. Riggs, kindly loaned to me, and assisted me.

No little annoyance was occasioned by several abortive attempts to draw a *kinked* wire through the needle after it had been passed under the vein. This need never occur, if due precaution is taken to have the wire *perfectly smooth*. This will hardly happen to Reese a second time. Simpson's wire is far less likely to twist in this way. January 25th, rested well. 26th, hard rigor, considerable fever last

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night; there is extensive echymosis of limb below the knee. 27th, another chill and fever, considerable local inflammation; must run the risk of phlebitis. 29th, doing well. It will be a success.

Case Third.—Maria Brow, quadroon, age 30 years. January 8th, 1870. Operation of paracentisis abdominis. On the 29th, drew off 23 pints, and left canula in situ. High fever supervened; delirium; excessive tenderness of the entire abdominal surface; pulse 135; bloody serum, and dark grumous matter discharged for the next 72 hours. 31st, free from fever in the afternoon; canula still in place; doing well. February 1st, doing well. 2d, doing well. Of course, it is impossible to say what will be the result of this case, but we may hope for a good one, from recent experiment in New York city. Serum blood and some pus are being discharged; the tumor is less than half the size it was four days ago. Certain it is that I shall extirpate in the course of the next ten days, if not cured.

I herewith furnish the history of a case of resection, as embodying, perhaps, more novelty than any other operation in surgery performed by me during the year just passed.

On the 5th of November, 1870, I was called to see Charles Nave, age 40 years, suffering from the effect of a pistol shot wound of the right elbow. The wound had been received a week or more preceding, and the arm was much swollen, causing the patient acute agony. On a careful examination, and a thorough manipulation, I ascertained that there was a fracture of the ulna, but I could not make an accurate diagnosis, owing to the infiltration, resulting from effusion and swelling. I therefore made a longitudinal incision over the posterior surface of the ulna, freely laying open the arm, and exposing to the touch the fractured bone. Introducing my finger into the wound thus made, I found that the ball had entered the ulna between the olecraum and the coranoid processes, splitting the bone into two equal fragments of three inches each in length, and separating them completely from the shaft of the bone. Finding the radius uninjured, I determined to perform the operation of resection and ensection as meeting fully the requirements of conservative surgery.

To do this, I extended the first incision to six inches in length, commencing at a point four inches from the wrist and continuing it back over the elbow joint; then pressing the muscles apart, I dissected out the olecraum process with its adhering fragment of bone, and strongly flexing the forearm, I treated the coronoid process and attachments in like manner. Placing the arm in a semiflexed position, bringing the edges of the wound together with adhesive strips, applying a roller bandage and splint, constituted the dressing.

Throughout the entire operation I kept my knife close to the bone being dissected, and thereby saved the arteries and nerves from injury. To this cause do I attribute the subsequent good result.

Treatment.—Dilute solution of carbolic acid to the wound, with

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twenty drops of tincture chloride of iron, three times daily, and morphine when required to relieve pain. Diet.—Nutritious, consisting of eggs and beef steak, and egg nog in small quantities when the vital powers flagged. Results.—the patient can now, after the lapse of four months or more from date of operation, carry a full bucket of water in the hand of the wounded arm and perform various feats of strength without suffering pain or inconvenience.

The power of voluntary extension was lost when the inserted tendon of the triceps was removed, and of flexion, partially by the exsection of the coronoid process and the insection of the brochialis anticus muscle. Notwithstanding these grave losses, I deem the operation a success, and that the preservation of the hand alone with its multiple powers, demonstrates the triumph of the surgeon's art. If the arm is freely used and exercised, I believe that, in time, nearly all of its functions will be regained. This case has additionally proved to me that the opening of joints has been a great bugbear to surgeons, which should not be regarded. Open joints, if necessary, without fear. Saw off bone *ad libitum* if you wish, but do not touch the arteries and nerves. So long as you have life's current pure, strong and unbroken, with all its nerve force unimpaired, your patient will be safe. Go to nature for a monitor: cut from a shrub or tree a piece of woody fibre, it will continue to live and flourish, to put forth beautiful leaves and bright flowers, but once cut its bark—its arterial trunk—in twain, and the leaves will wither and decay, and the bright and fragrant flowers will fall and die.

The following case is reported by Dr. John P. Furniss:

On the 27th April, 1870, assisted by my friend, Dr. B. H. Riggs, I removed from the head of a negro girl, aged thirteen, a fibro-cystic tumor, which weighed eight pounds and seven and-a-half ounces, avoirdupois.

The patient was sent me from Perry county, and was accompanied by her aunt, from whom I ascertained the following: The patient had a tumor about the size of a small egg, on the top of the head, and without giving inconvenience, it remained stationary for many years. Last August she had several convulsions, when it began to increase, and continued to grow until it measured fourteen inches in its long, and twelve inches in its short (transverse) diameter. The patient was chloroformed sitting upright in a chair, and held firmly by an assistant. A double illiptical incision was made through the scalp, in the direction of the long diameter, the rest of the scalp was detached by the fingers, and the tumor, thus exposed, showed a fibro-cartilaginous adhesion to the bones, extending from the anterior fontanelle to the occipital protuberance. So firm was the adhesion, that it could be severed only by the knife. Though the operation was expeditiously performed, the hemorrhage was so

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profuse as to cause syncope. The application of a solution of per sulphate of iron, arrested it immediately. After removal, examination showed extensive caries and necrosis of the parital bones, and the occiput, where the pressure was greatest, was so involved that the dua mater could be easily felt through it with the finger. After the edges of the wound were brought together, a simple water dressing and compress were applied. The patient did well until the sixth day, when erysipelas set in, and on the eighth she died. Six hours from the time the disease was noticed, she was unable to swallow. The case is remarkable only on account of the size and location of the tumor.

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TOPOGRAPHY AND DISEASES OF ORRVILLE AND VICINITY.

BY W. A. COCHRAN, M. D., OF CAMBRIDGE.

Orrville is a flourishing little inland village, located in the pine woods on the western side of the Alabama river, and near the centre of that portion of the county known as Western Dallas. It is about five miles from the river at its nearest point, and eight miles west of Cahaba; eighteen miles west of Selma, and one mile south of the Selma and New Orleans railroad. Twenty years ago, the site of the village was occupied by a steam saw mill and gin factory, with a few modest dwelling houses; but through the influence of enterprise and energy, aided by the attractions offered by a flourishing school, it grew in a few years to its present respectable dimensions. Its corporation extends half a mile in every direction from the female academy, which is regarded as the centre of the place, and contains a population of near three hundred inhabitants. It has eight dry goods and grocery stores, a steam mill, a gin factory, a carriage factory, machine shops, and other buildings, together with a large number of beautiful dwellings, displaying no little taste in their construction, which, taken in connection with its church and its academy, together with the quiet and order that reign, bear testimony to the virtue, the intelligence and refinement of its population.

The site of the village is almost a level plane, composed of a fine, porous, sandy soil, with a sub-stratum of clay, and is surrounded by pine woods. There is nothing in the plan of the village, nor in the arrangement of buildings worthy of special mention. Most of the houses are scattered along one main, wide, business street, running east and west for half a mile. About two hundred yards south of this main street, and running parallel with it, is a second street, but not quite so long. A number of cross streets, widely separated, unite these two, and constitute the main portion of the place. It supports a lively and lucrative trade, and is, perhaps, next to Selma of more commercial importance, than any other place in the county.

Since the close of the late war, there has been built up on the southern limit of the village a negro settlement, composed entirely of huts or cabins huddled together without any regard to order or system, but perfectly in keeping with the primitive style and grega-

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rious habits of this race. This settlement is about a quarter of a mile wide, and more than half a mile long.

In a sanitary point of view, this place labors under one disadvantage in common with the whole of the surrounding pine wood country, namely: a want of natural facilities for drainage. The face of the country is generally so nearly level that water does not readily run off, but it accumulates here and there, forming innumerable long and tortuous ponds or swamps, which ramify in every direction until they find an outlet into some running stream. These ponds or swamps vary in width from fifty to one hundred yards, and where they have not been drained, contain water throughout the winter and during wet seasons to the depth of from one to two feet. One of these ponds rises near the female academy, in the centre of the village, and runs east, parallel with the main street, until it reaches its eastern extremity; it then crosses it, and runs back on the other side parallel with it throughout its whole extent. It is true, it has been drained, and that portion in the village converted into gardens and orchards; still, the drainage is so imperfect, that after heavy rains, the ditch overflows, and during wet weather, remains full of stagnant water. That portion of the swamp which winds around the northern side of the village is about two hundred yards from the main street. It forms the boundary line on this side; has been imperfectly drained, and is covered with a thick undergrowth, forming an impenetrable barrier, except at certain crossings.

Another similar swamp rises on the north side of main street, opposite its eastern extremity, and runs south through the east end of the place. It courses along for half a mile, close upon the border of the negro settlement, and forms its eastern boundary. This swamp has not been drained. So much for the topography of Orrville. Let us glance at the adjacent country.

The district of western Dallas includes all that portion of the county lying west of the Cahaba river, and west of the Alabama river below the town of Cahaba, embracing an area of more than twenty-five miles square. It is a district that is well watered, and is traversed by two railroads, with a soil that is rich and varied as to character, teeming with the products of agriculture, and thickly settled throughout by an intelligent and refined population.

The face of the country and character of the soil are so widely different in different places, that a brief descriptive outline of the district, and some allusion to the topography of certain localities will not be out of place in this report, as they have a direct bearing upon the character of the prevailing diseases.

The whole of the northern portion of the district, extending from the line of Perry county on the west, to the Cahaba river on the east, and southward to within six or seven miles of Orrville, is a rich prairie country, containing much flat, swampy lands in its cen-

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tral portion, but becomes more rolling as the river is approached, where it terminates in a ledge of hills which lie along and over look that stream. The western portion is a beautiful rolling prairie, and mostly under cultivation.

The soil of the southern half of the western division of the district is of a mixed character, consisting of lime, clay, and sand, first the one and then the other predominating; that along the water courses consisting of a rich loam, with an argilaceous sub-soil, highly retentive of moisture, and extremely productive.

The remainder of the district, and about one-third of the whole, including the immediate vicinity of Orrville, and extending east and south to the Alabama river, consists of table land of pine woods. This is not a barren section as the term "pine woods" might imply; but the soil is of a consistent character, with a substratum of clay, retentive of moisture, and maintains, in many places, a lively growth of oak and hickory; it is thickly settled, and a large proportion of it is under cultivation.

Three noble streams water the district I have described, and course southeast to the Alabama river. The first of these is Johnson's mill creek, a beautiful stream of clear water about twelve miles long. It drains the pine woods between Orrville and Cahaba, furnishes an outlet for the innumerable ponds and swamps that infect this region, and supplies a never-failing mill-pond before emptying into the Alabama river. This stream emerges from an extensive swamp north of the Orrville and Cahaba road, which, like all the rest of the swamps of this section, dries up in summer; but below that road springs maintain it throughout the year.

The next is Boguechitto creek, which runs nearly centrally through the district; it is a formidable stream, and at least fifty miles long. It rises six or seven miles north of Marion in Perry county; runs through and drains twenty miles or more of low, flat prairie land, and empties its dirty water into the Alabama river at Lexington. North of the Orrville and Liberty Hill road the banks of this stream are low, and subject to extensive overflows in winter and spring, but below that road its channel deepens, its banks are more elevated, and it does not overflow so extensively.

The next, and last, is Chelachie creek which forms the western boundary of the county. It is a large stream of clear water, with banks of beautiful white sand, and is about thirty miles long. It rises in Marengo and Perry counties, drains the swamp lands along the western border of the county; furnishes a splendid mill-pond, and empties into the Alabama river three miles below Lexington. Its head-waters overflow and partially dry up in summer, but as the river is approached, its channel deepens, and springs maintain a current throughout the year.

These streams maintain a bold, swift current throughout the winter season, and in times of freshets, rise twenty-five feet high, sweep-

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ing off fences, and sometimes bridges, overflowing bottom land, and leaving a large amount of alluvial deposit along their banks, and in low places. They also back up extensively from the river in times of freshets, and overflow all the low lands in immediate proximity to them for many miles up their course. These streams are conspicuous features in the geography of this district, and exert a baneful influence upon the health of its inhabitants. The two last mentioned run down separate valleys which average, generally, about two miles wide, and deepen as the river is approached. The streams are about three miles apart where they empty into the river, but they soon diverge, and run nearly parallel for seven or eight miles, when the Chelachie bears off to the west. An intermediate ridge of level and rolling land separates these valleys, extending northward from the river. Near the river it is broken and thrown up into precipitous hills, but as you go northward it flattens, and as the streams diverge, widens out, and is not so elevated. This ridge, which averages about two miles wide for some distance, is thickly settled throughout its whole extent, and the valleys, which are rich, level plains, consist of one unbroken series of plantations.

Prior to the late war, yearly invasions were made upon the timbered lands of these valleys, and most of the plantations were in a high state of cultivation; but since its close, more of these rich bottoms have been reclaimed ; ditches have been allowed to fill up, and hedges of reeds, briars, and willows mark their site. The land in the lowest places is often saturated with water until late in the season, and much of it remains uncultivated; vegetation grows luxuriantly, and vegetable matter in abundance is left exposed to the sun, to decay upon the surface of the ground.

The ridge of intervening land is lower than the opposite sides of these creeks—that on the eastern side of Boguechitto rising abruptly and forming the table land of pine woods before alluded to, while that on the western side of Chelachie, rises precipitately into a broken range of hills. The soil of these valleys, although similar, is not altogether alike, that of Chelachie being of a finer loam, is more retentive of moisture, and more productive, while vegetation along this stream and upon the westward hills is always a week or more in advance of that in the valley of Boguechitto.

The Flora of this region is abundant and varied. In the valley of Chelachie, and along the banks of its beautiful stream, even remote from the river, the magnolia (grandiflora,) blooms in majestic beauty, and in prodigal profusion scatters its odor to the breeze, while the jassmine and the wild honey-suckle with lillies and violets adorn the distant landscape of the valley; there also, and upon the adjacent hills and ridges, every species of plant and flower indigenous to the soil of this latitude, radiant with the glow of life, and rejoicing in the sunbeam, flourishes and blooms in luxurious abundance and variety.

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Diseases.

The numerous streams and extensive tracts of low lands and swamps with which this section abounds, together with the character of the soil, render the atmosphere of this district, at certain seasons, extremely insalubrious, and malarial fevers, which form such a conspicuous feature of the diseases of the great cretaceous belt of the State, often assume their most malignant types. So general and numerous are the sources of this poison that there is not a spot anywhere in this district exempt from its influence and operation. The atmosphere is so rife with it at certain seasons, and under favorable conditions of heat and moisture, that not only low lands and swamps, but upland farms, gardens, and yards generate it. Wherever decaying vegetable matter, a bare, wet earth, or recently upturned soil is exposed to the influence of a hot sun, it is generated. Residences, remote from swamps, and protected by belts of timber from low lands, form no exception to the rule, and in vain will the ague-stricken invalid of this latitude seek to find a pure air short of the sea shore or the mountains. The comparative salubrity of many localities in the middle districts of the State during the summer months previous to the late war, when a rigid system of discipline could be enforced, the land well cultivated, and many of the sources of disease removed, is a fact well known to the profession and the public, but since that time, owing to circumstances over which the white population of those districts have no control, every energy seems to have been paralyzed; plantations have been abandoned, drainage and a proper cultivation of the soil has been neglected; a vast amount of decaying vegetable matter left everywhere upon the surface of the ground, exposed to the floods of winter and heat of summer, and pestilence in the shape of the most malignant fevers, has been the result.

There can be no doubt that it is to imperfect drainage and the miserably inefficient system of farming practiced by the rural population of the Southern States, that the extensive prevalence and great increase of malarial fevers of late years are partially due; and say what you will about antidotes and specifics, there is no help for the inhabitants until time, industry, capital, and labor, by a thorough system of surface and underground drainage, with levees or embankments to prevent overflows and a radical revolution in agricultural operations shall free the soil of the noxious effluvia. The almost complete destruction of malaria and the subsidence of malarial fevers in many previously unhealthy districts of France, England, Ireland, and Scotland, not to mention localities in our own country, by a thorough system of sub-soil drainage, and an improved mode of agriculture, need only to be cited to establish the fact that malaria can be exterminated, and our recent sad experience warns us of its imperative necessity.

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The vast amount of animal and vegetable matter that accumulates about every barn yard, negro cabin, and the waste places of plantations, and which is left to be washed away and dissipated,could be profitably utilized, if buried deep beneath the surface, then in the great laboratory of nature it would be converted into rich food for the growing crop, and ripening into an abundant harvest, would enrich the granary of the husbandman and reward him for his labor. But more, the stern mandates of nature require that these elements shall be thus appropriated, and when misapplied, or allowed to be consumed in the air, foci of disease are established, which are used by a beneficent Providence to scourge man for his apathy and slothfulness.

The past year has not been remarkable for the prevalence of any unusual epidemic influence, but the regular routine of diseases appeared in the order of their usual occurrence, which furnish the only material for a report; it will, therefore, be necessarily meagre and uninteresting.

The epidemic catarrhal influence of the previous winter, which was protracted until late in the spring, was replaced by dysentery and typhoid fever, and they, in their turn, were superseded as the season advanced, by the malarial fevers of summer and fall, and when winter set in, pneumonia and catarrhs again asserted their prerogative.

April.—The weather during this month was fair, with cool nights and pleasant days generally, and rain was very moderately and irregularly distributed. On the morning of the 18th, after a sudden change, the thermometer, at 6 o'clock, registered 32°, with frost and thin ice. Towards the latter part of the month, weather warmer with thunder clouds. Catarrhal affections which were the prevailing types of disease during the winter months, lingered in a subdued form through this, though there was an unusual exemption from diseases of all kinds generally.

May.—This was generally a dry month, and, after the middle, usually warm; the thermometer registered 98° at noon on the 21st, and for many days together ranged above 90°. The warm weather of this month was very debilitating, and made a visible impression upon the countenance; children and delicate females especially felt its impress, and mild forms of dysentery and typhoid fever sprang up. Other affections, due to excessive heat, were also observed, especially bowel derangements in children, and menorrhagia in females.

The dysentery of this season was not malignant nor fatal, but obstinate in some cases, and slow, generally, in yielding to treatment. The typhoid fever was of the simplest and mildest character generally, a few cases only being protracted. The prominent features were hot skin, intense pain in head, back and limbs, together with diarhœa. The patients had generally taken castor oil,

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which always acted in excess, and quinine, which invariably aggravated their condition. The treatment adopted consisted mainly of anodynes to procure rest, and quiet the action of the bowels cold ablutions, and a restricted diet. A dry tongue or tympanitis required oil of turpentine and chlorate of potassa. The fever usually subsided after the fourteenth day, a few cases only being protracted. These diseases occurred during dry and hot weather, while the atmosphere was perfectly calm. They prevailed mostly among the negro population, in close houses, and exposed to the sun, with premises abounding in filth and emitting the noisome odor of fecal miasm. In this connection a late writer observes: "But not to dwell on the negative proof, it may be said that upon no subject in practical medicine is there a larger and more constantly increasing mass of evidence than as to the power of fecal miasm to generate typhoid fever, and to the fact that it does so." (*Lectures on the Study of Fever by Alfred Hudson, M. D., p. 306.*) During the latter half of this month the average range of the thermometer was, at sunrise, 64°, at 12 o'clock, 88°, and at sunset 77°.

June.—This month was more pleasant than the latter half of May. Rain was regularly distributed, and there was not so much complaint of excessive heat. The average morning temperature at sunrise was 69°, at 12 o'clock 87°, and at sunset 76°. Mild remittents prevailed during this month.

July.—There were no rains during this month, until the 15th, and the weather was excessively hot, but after that date the heat moderated, and the thermometer did not range so high. Remittent fevers, attended with much nausea and vomiting in grown persons, and convulsions in children now prevailed. The thermometer gave for this month an average of 72° at sunrise, 93° at 12 o'clock, and 84° at sunset.

August is also reported as dry until the 10th and 12th, with rain again on the 18th; the first perceptible east wind being felt on the 22d. The thermometer gave for this month, at sunrise, 73°, and at 12 o'clock 92°. Remittent fevers, with bilious vomiting, continued to prevail, and a few cases of hemorrhagic fever are reported.

September and October were also dry, and frost was delayed until the night of the 9th of November. During these months the paroxysmal feature of fevers was much more marked, and the double tertian type of intermittent fever was quite common, with a tendency to congestion of internal organs; gastric symptoms were prominently conspicuous, with defective transpiration and constipation. The frequent recurrence of the chill was a source of alarm to patients, and the dreaded hemorrhagic fever constantly looked for. Convulsions frequently complicated the cases among children, but they were not fatal.

Owing to the absence of the spring freshets, and the unusually dry summer, malarial fevers did not appear so early nor prevail so

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generally; sickness was confined mostly to the valleys of Boguechitto and Chelachie, and the intervening land; the pine woods being comparatively healthy, though not entirely exempt.

During the summer and fall, measles prevailed in the valley of Boguechitto, west of Orrville; during the summer there was a tendency to implicate seriously the bowels, and in the fall, the lungs. A number of deaths occurred among the negro children from these causes. The measles required but little medical attention, and medical advice was not generally sought until fatal complications seized the patients. While measles were prevailing in the locality alluded to, a form of catarrhal opthalmia prevailed among children in the lower portion of the district, in the pine woods, and along the Alabama river. Although mild among children, it caused acute suffering among grown persons when they were the subjects. It generally attacked one eye at a time, and as soon as the inflammation began to subside, the other would be affected. It usually ran a definite course of about two weeks when not interfered with, leaving the eye sensitive and subject to neuralgic pains. In grown persons, fever and neuralgia was a frequent complication, requiring purgatives, morphia, and quinine. As a topical application, in the declining stage, and sometimes earlier, a solution of the sulphate of zinc and morphia, in the proportion of one grain of the former and half a grain of the latter to an ounce of water was often of signal advantage.

A few cases of hemorrhagic malarial fever were observed, and two deaths are reported from that disease. The disease prevailed mostly in the low, flat country, north of Orrville, and in the prairies west of that place. Only two cases of well marked hæmaturia have come under my observation during the past year. One was in the case of a little negro boy, about five years old, and the other in that of a little white boy of about seven. The negro boy had fever and took quinine, which failed to arrest the next paroxysm, but, according to his mother's statement, made it worse, and when the fever was at its height, he urinated blood, which ceased when the paroxysm subsided. He was ordered to take more quinine during the next interval, which arrested the paroxysm and no more blood was seen.

The white boy had chronic chills, and his parents withheld quinine because it always caused congestion of his stomach, and spasmodic action of the muscles of respiration, but, becoming uneasy, they ventured to give it to avert an expected chill; it had its usual untoward effect, failed to arrest the chill, and intensified the fever, and during the acme of the hot stage, he urinated blood. Quinine was discontinued. The next paroxysm came on as usual, but was less violent, and there was no more hæmaturia. He subsequently took quinine by enema without its usual bad effect.

I think it has been my observation that hemorrhagic malarial fe-

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ver occurs oftener in, and is more liable to attack, persons who, from individual peculiarity, are prone to excessive irritability of the stomach, and with whom quinine is, as a rule, badly borne, and when taken, often fails to have the desired effect. It imparts such disagreeable sensations, makes them so exceedingly nervous, or irritates their stomachs in such a manner that the abhorrence they have of it prevents them from taking it. This class of patients are proverbially "*bilious*." They suffer from visceral engorgements and thickening of the mucuous membrane of the stomach; they accustom themselves to the use of purgatives, and are content with the temporary relief obtained thereby, and neglect the more important tonic.

This practice only still further impairs the tone of the digestive organs, a habit of purgation is acquired and the necessity increases with the habit. I think physicians too are some time to blame for impatiently dispatching this class of patients with the simple injunction "*take quinine*," ignoring local lesions, functional derangements and individual peculiarities, which interfere with its ingestion and assimilation.

This class of patients will usually tolerate other preparations of bark—the simple or compound tincture, the infusion or decoction, singly or in connection with the mineral acids, especially the nitric, or the salts of potash, with little or no inconvenience. Under their use the appetite and digestion are improved, the nervous system is toned up, and blood disintegration is arrested, the effete product of tissue changed, one of the sources of the bilary secretion is diminished, the excessive functional activity of the liver ceases, and the patient is restored to health without the use of any purgative, or at least, with a sparing use of them.

I am familiar with the case of a young lady in whom there is such an intolerance of quinine, that a quarter of a grain causes congestion of the stomach, and the addition of a sedative does not remove the intolerance, yet this young lady takes the other preparations alluded to without any inconvenience whatever. She has a sister and two brothers in whom similar effects are produced.

In cases of hemorrhagic malarial fever, this intolerance of quinine is so notorious that the physicians of this section have discontinued its use by the stomach altogether, and administer it exclusively by the rectum. Engorgement of the mucous coat of the stomach and upper intestines are conspicuous pathological conditions in this disease, and the local effect of quinine is invariably to increase the nausea and vomiting; and according to my own observation, whatever aggravates these distressing symptoms increases also the hæmaturia. This latter symptom is perhaps, also, an exagerated functional activity of the kidneys in eliminating those elements from the blood which it is their duty to remove, and shows that excessive disorganization is going on elsewhere. The most

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reasonable indications then appear to be a speedy relief of those depurating organs to prevent them from breaking down in their heroic efforts to eliminate offending matters, and at the same time, prevent further blood destruction. The first of these indications we fulfil by restoring the suspended secretions of the intestinal canal, which heretofore had divided the labor, but now are suspended and dried up! For this purpose our fullest expectations have been realized from mercurial and saline purgatives.

The second indication is fulfilled by the judicious use of quinine and nourishment. Our mercurials should be so used as to avoid their constutional effects, and salines should be so timed and guarded as to be limited to the removal of secretions poured out into the bowels, and suspending them on the slightest evidences of undue irritation. I am confident I have seen bad effects produced by saturating the system with quinine beyond the powers of its capacity to endure and appropriate. A steady maintenance of a moderate quininism as manifested by its peculiar effects, is all that can be claimed for this remedy, and beyond this it only tends to depress the system.

I have seen this system of alternate elimination and alimentation, coupled with a moderate use of quinine, practiced for a week or more, the patient gaining strength all the time, and have known them to recover under apparently the most desperate circumstances. So long as the kidneys can perform their function, and its secretion is not suspended, and no insurmountable physical or mechanical impediment obstructs the passage of inspissated bile from the gall bladder, and there is vitality enough left in the system to respond to stimuli, there is hope.

The after treatment in these cases is an all-important item, to prevent a relapse and insure convalescence. For this purpose, tonics consisting of iron, quinine and strichnia, or the vegetable bitters, with the carbonate, or bi-carbonate of potassa, or mineral acids to restore the appetite and digestion, as well as the corpuscles of the blood, are required. Astringent preparations of iron are badly borne, and the mildest and most un-irritating should be selected.

Since the above was written (March 12th, 1871), I have been called on to treat a case of this disease, occuring in a negro man, aged about 30 years. He had been ill about ten days, vomiting bile daily, and throwing up every thing taken into the stomach. He was very much exhausted, skin uniformly cool, pulse 130, conjunctivæ intensely yellow, mouth and tongue stained with bile, and urine the color of strong dripped coffee. His bowels were constipated and abdominal muscles contracted. Eight grains of calomel in a spoonful of water were swallowed and retained, and hot fomentations were assiduously applied over his bowels. The next day it required an ounce of salts and a half ounce of oil to move his bowels. They discharged an enormous quantity of bile, which relieved all of

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his distressing symptoms, and he took nourishment, quinine by the mouth, and stimulants. The next day he was purged again with salts, followed by whiskey and soup, and he was placed upon a mixture contaning nitre and spirits of turpentine. After taking 15 grains ot quinine he rebelled against it and it was discontinued. Notwithstanding this purging his pulse fell from day to day, and now, March 17th, his skin is uniformly warm, pulse 80, and tongue cleaning, begs for nourishment, urine stained with bile, but clearing up, and he is much stronger. He was ordered to continue the turpentine mixture, with soup, whiskey as relished, and bowels to be kept open by enemata or salts; the quinine to be resumed and continued in doses of two grains three times a day.

About the middle of November, after the cold weather of winter set in, pneumonia of a grave and fatal character appeared, and a number of deaths, mostly negroes, occurred from this disease.

The coldest weather of the season occurred about Christmas, and the thermometer on the morning of the 24th of December registered 12° at sunrise. During January, February and March, the weather has been moderate, with a prevailing south wind, and abundant and frequent rains since the middle of February.

Catarrhal affections, with a special tendency to the glandular apparatus of the throat, together with a general depressed state of the system, often culminating in bilious vomiting, have been the prevailing diseases of the present year.

Some four or five suspicious looking cases of sore throat appeared in the same locality about the last of February, accompanied by high fever, vivid redness of the fauces, and great difficulty in swallowing. One case was accompanied by a scarlet rash upon the face and chest, which was followed by desquamation. Another was followed by anasarca, which yielded to purging, digitalis, and nitre. All of them recovered.

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DRUNKENNESS AND ITS REMEDIES.

BY BENJAMIN H. RIGGS, M. D., OF SELMA.

It has fallen to my lot to report to you at this session upon the subject of "Drunkenness and its Remedies."

Habitual drunkenness has a medical aspect. It frequently comes under the care of the physican, and produces a sad state of moral and mental and physical infirmity. The body of the habitual drunkard is in an unnatural or diseased state. That habitual drunkenness has a medical aspect, or rather is a disease, is clear, from the abundant evidence in medical literature that it has claimed the constant and earnest attention of medical men in all times of the past. We are all familiar with the affecting pictures of the one who suffers from *delirium tremens* or *mania-a-potu*, the acute pathological condition produced by a prolonged spree. Neither is the name dipsomania, a morbid and insane thirst for intoxicating fluids, an unusual term with us. Methomania, that soft sounding word which means madness or insanity, resulting from excessive drinking, again is not unfamiliar to our ears. A word more used, but still expressive, temulentia (temulence) which signifies drunkenness from alcohol, may also be found in frequent use in the literature of this subject. These names, in themselves, bear abundant testimony that medical men regard this state as one of disease, but their numbers and variety attest also a groping about in an anxious search for its true pathology. It would not be proper for me, in an article like this, to enter fully into a disquisition upon the subject before me. I assert the proposition that drunkenness is a disease, and has its law, as other diseases have. Its "law of origin, continuance and result." And the object of this paper is to impress upon those present, true, humanitarian views on the question, in order that the unfortunate sufferer may receive that aid which he requires to disenthral himself of the malady which enchains him. The causes of temulence are hereditary or acquired. In the language of another, "There is a sense of physical or mental *unrest* which may result from hereditary infirmity or predisposition, from an undue exercise of the intellectual or emotional powers; from business trials, or domestic discontent, and from a variety of other causes. Second.—There is a desire for speedy relief, and a strong tendency to seek efficient artificial support in the most convenient form, which is alco-

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hol. * * * * As the result of indulgence, there is intoxication which has its varieties and stages. * * * * By this intoxication once produced, there is some more mischief done than the simple creation of an appetite for stimulants; the equilibrium of the passions has been more or less disturbed; the acuteness of our moral perceptions has been blunted; our will power has been weakened; and, by so far as this is the case, by so far are we the less men"—by so far we are diseased, I add. The frequent repetition of alcoholic intoxication brings about physical and mental disease of a marked character. One of the most potent causes of intoxication is an inherent *longing* want for stimulants on the part of man. I say an inherent or innate desire for stimulants on the part of the human animal. A glance at the different nations of the world will satisfy us of this: all nations have their peculiar stimulants. "Whiskey and brandy are the intoxicants of America, Russia, Scotland and Ireland; ale and beer of England, Germany, Japan, and Egypt; wine of France and Italy; bonza of Nubia; pulque of Mexico; tuka of Kamschatka; betil of Polynesia; arrack of Africa and Hindoostan; opium and shamshu of China and Turkey; banque and hashish of Arabia and the Grecian Archipelago; cocoa leaves of Peru; palm leaves of the palm countries; hyosciamus of Syria; rue of the Crimean Valley; and in more recent times, ether and chloroform, among the cultivated and refined of our own country. It thus appears clear that the production of intoxicating beverages or drugs is restricted to no clime or country. It is as widely spread as the existence of language."—(*The Probe*, by Joseph Parrish, M. D.)

The application of the foregoing is as follows: There is a constitutional desire in man for artificial stimulants, and this desire, when indulged in profusely, produces a condition of mental and bodily disease *or insanity*, known by us as dipsomania, methomania, or temulentia. This is the decision of all who have studied about or written upon the subject.

The plan of treatment suggested by the above is two-fold: preventive, and curative or reformatory. If the demand for stimuli be inherent, it is useless to attempt a universal temperance reform, or, in other words, it is useless to expect good from the temperance pledges of modern times. People will take stimulants, and it seems best to me to let them have that stimulant in the cheapest and least injurious way. I know, with the information before me, no better means of preventing habitual drunkenness with its manifold evils than the production and general use of *light, cheap wines*. After the habit is once formed, I know of no better means for its curative treatment than the plan suggested below, as proposed by Dr. Bryce.

It has been demonstrated that reformatory establishments or hospitals for inebriates do much towards curing and alleviating this firmly seated malady. I have seen the annual reports of the Sanitarian at Media, Pennsylvania, a private institution for the cure of

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inebriates, under the charge of Dr. Joseph Parrish, and the New York Inebriate's Hospital, and both show a large and encouraging per centage of recoveries.

The plan adopted at Media is to strengthen the moral nature—the force of will—by seclusion, pleasant recreations and occupations, and invigorating the physical nature by medical treatment, and endeavoring to bring his body into a healthy state by the means of the Russian or Turkish bath daily administered. Thus by invigorating the body, cleansing and stimulating the skin and the sluggish internal viscera, by abstinence from alcoholic or narcotic stimuli and pleasant intellectual pursuits, they endeavor, in three months —a course—to so fortify the moral nature, by strengthening the physical organization, that the patient will be able to go forth again into the world to do battle with his appetites and "temptations without." I do not think the course adopted at these institutions sufficiently long. Three months is not long enough to effect much good, and their charges, where they charge at all, are too high to be generally made available. While engaged upon this report a friend handed me a copy of the "Seventh Annual Report of the Alabama Insane Hospital," made to the State Legislature. I found the subject before us so forcibly and admirably discussed therein, that I felt that it would be needless for me to say much, as most of you have seen, or will doubtless see, this able document. Dr. Peter Bryce therein advocates the establishment in our State of a "Reformatory for Inebriates." This was the object of my own report. I will close by copying his plan:

"Assuming that the civil authorities have power, and that it is their duty to prevent the commission of crime at all hazards, by the abridgement, if need be, of the liberty of the individual, we are brought at once to what seems to be the only safe and rational treatment of methomania. I should like to see established in Alabama a reformatory for inebriates, of all classes, under the jurisdiction of the civil courts. The facts might properly come before the grand jury, and, upon the finding of a true bill, the case should be duly investigated by a jury impanneled specially with a view to its competency to examine and decide the same. If the allegations are established by proof the inebriate should be committed for a term *not less than two nor more than five years* to the reformatory, and be supported there at the expense of the State The treatment should be conducted by an educated physician, under a board of intelligent trustees. A part of the moral treatment should consist in the regular performance of skilled, manual labor, in which each patient should be compelled to engage, the proceeds of which should support the institution. Voluntary inebriates should be received without the exposure of a public trial, on the same conditions as those sent by order of the courts, on certificate of a justice of the peace that the applicant is a volunteer, and that the term of treat-

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ment has been determined by two intelligent physicians. Inebriates, who are willing and able to pay their expenses in the reformatory, should receive extra accommodations, and pursue, with the consent of the medical superintendent, such literary, manual or other occupation as their education, taste, and previous habits of life might indicate. Thorough discipline would be indispensable to successful management, but it should not be unnecessarily harsh nor exacting; nor should the institution be allowed to degenerate, in any respect, into a mere punitory establishment. Only such requirements and restrictions as are absolutely necessary to compel each patient to follow a trade, to obey constituted authority, to carry out the ordinary hygienic rules and regulations of such an establishment, should be imposed. The officers and nurses should be the best of their kind, and selected as in hospitals for the insane, with a view to their fitness, intelligence, and capacity for the work. In general terms, the qualifications for admission into this admirable institution, should be the excessive, persistent, or regular periodical use of alcoholic stimulants, to the neglect of other business, and domestic obligations, the impairment of general health, of mind or body, and the habitual failure to observe the proprieties of life at home or abroad. Such is a general outline of a reformatory for inebriates, which I believe to be not only eminently practicable, but absolutely essential in the cure of a disease, of all others, the most intractable and ineradicable. Inebriate asylums, upon the voluntary system alone, when the time of treatment is restricted to one year, however grand, imposing and complete their appointments, must necessarily from the very nature of the disease which they profess to treat, prove failures in the end. No self-imposed restraint can stay the victim in his onward course to destruction.. Nothing but the strong arm of the law can reach his case. Time, likewise, is necessary to remove the cerebral impression upon which we have shown methomania to depend. Reforms, extending over one, two and even many years, followed by relapse, debauchery, and death, are not unfamiliar to many of us, and lead us to condemn most emphatically any system of cure that does not extend over several years at least. Apart from the direct curative results of such an institution as I have described, its moral effect upon the habitual drinker and the novice, in restraining the habit within proper limits, or intending to break it up before it becomes fixed, and upon the young, especially those who have inherited the tendency, can hardly be properly estimated. The danger of relapsing, too, which we have shown to be so imminent, even in those who have undergone treatment, and are restored, will be materially lessened by the mere presence of so formidable an agent."

As the result of my reflections upon this important subject I am led to fully endorse the views set forth and advocated above by Dr. Bryce, and hope this association will take steps to impress this matter upon the attention of the Legislature, and the thinking public of the State of Alabama.

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CHEMICAL EXPLANATION OF MALARIA.

BY JOSEPH A. GROVES, M. D., OF LIBERTY HILL.

The constant association of conditions and results, in the various phenomena in nature, leads to the inevitable conclusion that they stand in the relation of cause and effect.

Among all the elements known to chemists, both organic and inorganic, there are observed mutual affinities, being strongest where sensible properties are not antagonistic, and in combination, properties before manifested are very much modified, being in some cases no longer recognized, and in some respects antithetic to what they were before being combined.

In all direct union of two elements they bear to each other in combination the relative position of radical and basyl. And in no case does any two so completely neutralize or hold each other, but that a third may either determine a decomposition by presenting a stronger attraction for one in combination, or else attach itself, with the formation of a new compound, and a change of sensible properties corresponding with the element introduced.

There is, also, a measure of neutralization existing, determining the relative proportion of each necessary to form neutral compounds, which at the same time does not serve as the measure or limit for their affinities. The object of all chemical combination is the neutralization of affinity, and the more nearly this is accomplished, the more staple is the result. Some elements, also, stand in the relation of radical or base as the other combining element or elements may be more or less so.

Carbon (C) appears, under all circumstances, to bear, when in combination, the relation of basyl. In an uncombined state, at low temperatures, it shows but little or no combining tendency. But when heated or once chemically combined, manifests remarkable affinity for oxygen, with which it forms a neutral compound (CO), and carbonic acid (CO^2) has excess of the radical element. Thus, while it has a decidedly basilar relation, its capacity for neutralization is comparatively feeble, being about equal to one equivalent of oxygen (O), or Hydrogen (H). The full measure of its basilar property, and its tendency in combination is to take and hold two equivalents of O, and where a larger proportion of radical element is combined, there must of necessity be an increase of basilar property in some other combined element. Thus in hydrated oxalic acid ($C^{\infty}HO^4$) there being two equivalents of O to each of C, H necessarily

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becomes basilar, and its presence is necessary to the existence of the acid.

Although C^2O has not been isolated, yet from the combination of carbon with chlorine, nitrogen and hydrogen, and the ultimate analysis of many organic compounds, analogy forces us to conclude that in the presence of hydrogen, C^2 may be opposed in chemical combination by O^1. Such compounds readily takes more O if properly presented. Carbon in combination with hydrogen, readily exchanges its hydrogen for oxygen, the H likewise combining with O. CH^2 and CO^2 are respectively more staple than CH and CO, in both cases the affinity of C being saturated. Although with C, H bears the relation of a radical, an excess of H never gives acid reaction, and in combinations into which C, H and O all enter, the H may exist in both a negative and positive relation, its place in combination as a negative being readily ylelded to O or Cl while it takes the position of a base with some other presenting element.

It requires H^2 to neutralize chlorine or nitrogen, although the affinity of N for H is such, that it seizes and holds H^3. In C^2N the C^2 holds the N without neutralizing it, as is manifest in its radical affinity for H, Zn, Hg, and other bases. Those organic compounds holding a larger proportion of C and H to the N are alkaloid.

While with C and H, nitrogen is radical in its affinity, with O it becomes basilar. In NO, the affinity of neither seems neutralized, and NO^2, though neutral, shows great avidity for more O, while phosphorus or charcoal ignited will take oxygen from it. NO^3 is acid, NO^4 neutral and NO^5 is also acid. It thus appears that the same element may be more or less actively charged with the combining force, enabling it to take different proportions of other elements, holding them with greater or less tenacity. It is also observed that while in organic compounds, N combines tenaciously with large proportions of C and H combined, its affinity for metals generally is feeble.

In urea are seen the elements of a double neutral compound $2(CO, H^2N)$ although the affinity of C for more O, and of N for more H, readily converts into carbonate of ammonia upon the addition of 2HO. In uric acid ($C^{10}H^4N^4O^6$), there are larger propor, tions of C and N. This is formed in excess in fever, and with deficiency of O in the circulation.

HO^2 may be taken as a type of the acids, O^2 comparing with chlorine in the formation of neutral salts, and in its power of saturating the basilar properties of sodium calcium zinc.

SO^3, in combining with their oxides, presents SO^2, a neutral, while the extra equivalent of O saturates the base, at the same time it cannot be released from the SO^2. Thus (SO^2 .CaO^2). While in the acid SO^3†HO, the SO^2 being neutral, H cannot neutralize O^2 any more than it can Cl. In oxalic acid we find a more active oxi

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dizing agent than CO^2 and ($C^2O^2.HO^2$) may probably represent it, the substitution of Ca for H making it neutral.

On the other hand H, H^2O or H^3N may stand as a type of basis. H^2 comparing with Ca in basilar properties, HCl is acid, it requiring H^2 to neutralize Cl, and upon the addition of H^3N the equivalent of H above what is necessary to neutralize N completes the neutralization of Cl (H^2N, H^2Cl). In CaO†HO, Ca requiring O^2 for neutralization, (CaO^2. H) is alkaline.

Thus one equivalent of O above the point of neutralization may be said to represent an acid, while similarly one of H in a positive relation, represents a base. And in neutral salts the excess of O in the acid saturates the affinity for O in the base, thus being a bond of union.

On transmitting a galvanic current by contact of zinc and copper in an acidulated mixture, it is found that the impulse flows through the water from the zinc to the copper, and out of the water from the copper to the zinc, with the effect of increasing the action of the acid upon the zinc, and lessening it upon the copper. In this case the dynamic impulse or affinity uniting zinc and oxygen, is direct and active, while that transmitted to the copper is the negation of affinity, which negative impulse transmitted from the copper to the zinc out of the water, imparts to the latter a condition in greater contrast to, and accordingly presenting a stronger affinity for O. In a strong solution of ammonia, the current is reversed, and oxygen is evolved at the zinc plate and H^3N consumed at the copper.

It thus appears that the galvanic current is neither more nor less than the negation of affinity set in motion, and when sufficiently developed, decomposes chemical combinations, suspends the force of affinity, restores elements to their uncombined state, or holds them in a condition the most sensitive to the action of consuming elements, is set in motion by heat or chemical action, and is governed by similar laws which regulate affinity, in a converse or opposing direction. Considering this current as a dynamic force, it is an inherent tendency and property of matter to return to and remain in an uncombined state, or state of inertia, repellant of the force of affinity, and is most developed or inherent in those elements having the weakest affinities. This galvanic property may be termed a negative electrical condition, and the force, acting upon inertia, and creating the current, whether by means of chemical action, the instrumentality of heat, or through solar influence, dynamic electricity, while the body imbued with, or acted upon by the same, may be electro negative or electro positive. Thus the presence of the electro negative element stimulates the electro positive to action and develops its otherwise dormant property. Also in ternary compounds, one of the elements has the effect of increasing the affinity or susceptibility of one or both of the other two.

The neutralization of this force evolves heat. An accumulated

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waste is ordinary electricity, which becomes positive or negative, as the body accumulating and holding it may have relatively further affinity for a base or radical. Glass having excess of radical element accumulates positive or basilar electricity. Resin having excess of basilar element accumulates radical or negative electricity.

Attention is also called to the strong attraction of oxygen for both poles of the magnet, when a magnetic current is passed through a mixture of that with other gases; while the tendency of carbonic acid, hydrogen, and especially nitrogen, is to arrange themselves equatorially, in common with all matter not magnetic. Also to the fact that in gaseous combination, oxygen lessens the equatorial tendency of all gases with which it is combined, while its own polar attraction is lessened thereby.

The earth has been called a magnet. The action of the sun creating a galvanic current beneath and from the surface, following the course of its rays from east to west, and diverging from the plane of its orbit, determining the polarity of the needle. It is also suggested that an aerial galvanic current exists, created by and following the course of the moon from west to east, diverging from the plane of its orbit, and assisting the telluric current in determining polarity.

The dynamic electricity of the sun being electro negative in its character, imparts a similar electricity to the surface of the earth, which is alternately attracted and repelled. By the laws which are observed to govern such phenomena, the fact of the electrity of the earth's surface beneath the sun's rays being negative, determines that of the atmosphere in contact with and near it to be positive. This dynamic force transmitted in the line of magnetic attraction towards the poles, becomes there repellant of the negative electrical or galvanic condition of the earth.

By a consideration of the foregoing, viz: the magnetic property of oxygen, and the diamagnetic tendency of nitrogen; that in a combination of nitrogen and oxygen, nitrogen is electro-positive; and the electricty of the atmosphere beneath solar influence being the reverse of that with which the earth itself is charged, together with the excessive development of animal and vegetable life in equatorial regions, and in more temperate latitudes in warm weather, we are led to the inevitable conclusion that the nitrogen of the atmosphere is the agent for developing the vitalized principle.

An examination of the phenomena of the growth of plants, demonstrates a certain amount of heat to be necessary for the same, and in turn heat is generated. Also, that in the sunshine, carbonic acid is absorbed and oxygen evolved, while in the shade or at night, oxygen is absorbed and carbonic acid evolved. When we consider the property of growing plants to maintain an equilibrium of temperature, that they do not thrive in an atmosphere of carbonic acid, and that absorption of oxygen accompanies increased generation of heat,

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we can but regard the latter as the relic of chemico-vital action, in which oxygen and carbonic acid are antagonistic.

The formation of carbonic acid would also appear to be a nutritive result, it being the first step in vegetable growth co-equal with absorption of oxygen and water.

For the growth and nourishment of plants, there must of necessity be continued absorption of water and other principles containing hydrogen. Diffusion of hydrogen in the atmosphere prevents the etiolation of plants growing in the dark. As the absorption and appropriation of hydrogen is commensurate with the nutrition and growth, so will its release be with the decay of vegetable matter.

In animal life are observed similar, though more complicated phenomena. In the blood CO^2 always exists, and yet is continually being evolved and oxygen absorbed, while the formation and evolution of CO^2 from the body will more nearly express the nutrition, or restoration of waste, than disintegration of tissue. The effect, also, of excess of CO^2 whether by contact with the skin or the mucous lining of the lungs and olfactories, is to diminish or retard vital action with its resultant heat. The nervous system is so disposed as to assist in contributing to that result, as the effects produced, first by section of, and then stimulating the sympathetic demonstrates. In the manifestion of this influence, we find as in plants CO^2 and O antagonizing each other, oxygen stimulating the vital activity which CO^2 checks. There is also every reason to believe that these results can be produced indirectly. The withholding of O producing effects analogous to to the direct application of CO^2 in lessening animal temperature, and removal of CO^2 in larger proportion from the system to increased action of O.

The animal organism is composed of parts, each possessed of a vitality and function of its own, and responding to stimuli peculiar to itself. Wherever there is a function to be performed, there are, also, ganglia controlling the same, which upon being excited or impressed, in turn stimulates the discharge of the function. Over the whole is a controlling nervous influence by which the activity of each part may be materially and sensibly affected. There is also an antagonism in the different functions, whereby the proper equilibrium is maintained of heat and cold, rest and activity, nutrition and waste. The integrity of these necessarily implies perception, and the activity to respond to impressions. This inherent irritability is equally necessary to mental action, muscular contraction, secretion and the exercise of the senses, and may be regarded as the evidence of life. The exercise of it may be increased or diminished by the application of proper stimuli, its degree by varying conditions of the system, and its intensity may vary in different subjects. The exercise of the vital functions requiring a consumption or waste of material, there must of necessity be a reserve of the same. The

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extent to which this can be drawn upon without impairment or exhaustion may be said to represent the amount of nerve force or vital capacity that can also be increased or diminished.

For the better understanding of the principles involved, we will consider animal life as necessitating two opposing forces, analogous to what are observed in inorganic matter, viz.: the force of affinity, or that which disposes O in union with C, S, and P, and N with and negative to H, stimulating chemical action; developing heat, consuming the elements of nutrition, and is manifested in the exercise of every function of animal life, as is evident from the debris of the system, and is continually in action in the circulation, but most especially in the capilaries.

Opposing this is one analogous to the galvanic current, which reverses or suspends the natural affinity of what is subjected to it, disposing the component elements of the body in that relation which makes them most sensitive to the force of affinity when brought to bear upon them. It is developed and set in motion by heat and chemical action, and holds the elements of nutrition, both for the maintenance of heat and the exercise of the functions of life. It may be direct or reverting, and is influenced by light and darkness, cold and heat, and the integrity of the nervous system is necessary for its proper action. The conclusion here presents itself that the process of growth or nutrition is the reverse of decay, and in all the manifestations of animal life accompanying each other—the disintegration of tissue being stimulus to increased nutrition. Warmth also produces a like result without necessitating disintegration. Failure to eliminate disintegrated matter from the system results in the perversion, impairment or suspension of the functions disintegrating the same.

In considering the effects of C, H, N, and O, we select their simplest combinations, and those possessing marked medical properties, as most likely to give proper direction to our inquiries. We do not pass over other components of the body because they are not possessed of physiological value, but that they are less important to the consideration of the subject before us.

With other agents, as arsenic, antimony, mercury, we always expect the substances with which they are combined to receive their peculiar impress, not only chemically, but in the manifestation of their medical effects. It is but reasonable to believe that the elements of organic life are governed by the same laws. It is with the view of determining these, that we enter into this examination.

The properties of CO^2 and O having been partly considered, we make a few additional observations. When free or uncombined, oxygen increases the heat and stimulates the activity of the system, while the mineral and vegetable acids are cooling. This goes to show that its stimulating property is caused by its tendency to pass into combination. This being accomplished, its presence retards

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the action which its combination excited, and its removal becomes necessary. Although water (HO) is necessary to nutrition, yet it is also a cooling agent. The very exhilarating effects of NO are probably attributable to the N and the manner in which it is combined. Those acids and oxides which are poisonous, owe that property either to the intensity of the acid, or the poisonous nature of the oxidized element.

The carbonic acid, ($C O^2$) oxalic acid ($C^2 H O^4$), bi-sulphuret of carbon ($C S^2$), chloroform ($C^2 H Cl^3$), ether ($C^4 H^5 O$), hydrocyanic acid ($C^2 H N$) is observed the property of creating immediately or ultimately, and with varying intensity and modifications, a state of unconsciousness or insensibility. In all of these carbon is combined to neutralization with different radical elements, and in some to the full extent of its affinity. On the other hand we find cantharidin, creosote, oil cinnamon, benzoic acid, resin of gamboge, strychnia, having carbon largely in excess, and the observed effects are irritant to the system.

From a careful examination and comparison of the action of substances containing carbon, the following conclusions are deduced, viz.: an excess in combination not neutralized, imparts the property of rendering the compound irritant to the sensorial and perceptive faculties, exciting action, as observed in the effects of strychnia upon the spinal chord, gamboge upon the intestinal canal, and benzoic acid upon the pulmonary membrane, and system generally. its disintegration by muscular action becomes evident from the largely increased elimination of ($C O^2$) and urea by violent exercise. But when it is combined to neutralization, its property is to suspend or diminish the faculty of perception, modified by the neutralizing element. Hence results the coma from carbonic oxide (C O), the asphyxia from (CO^2), the anæsthetic properties of chloroform, ether, bi-sulph. carbon, chloral, and the deadly effects of hydro. cyanic acid, and nicotine. That it may be differently combined in the same body, would appear from the narcotic properties of opium, belladonna, aconite. Thus carbon is irritant, and oxygen stimulant to the system, both effects being manifested through their affinity for each other, exciting action and creating heat. But when combined, they diminish or arrest the vital action and formation of heat, unless removed from the system. The carbonates not being poisonous, does not invalidate the above, as in them, all activity in the carbon to combine or affect the system, is completely neutralized, which is not the case with the soluble oxalates. Nor will the injection of CO^2 into the veins and its reception into the stomach, proving comparatively innocuous, be found contradictory, as its rapid and unrestrained elimination speedily removes all excess.

An observance of the stupefying effects of $C S^2$. H S and H^3. N^2. H S, upon the censorium with the property of stimulating the different secretions; and the irritating properties of $S O^2$, the sul-

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phates and the combinations of sulphur with chlorine and iodine, would indicate that the properties of sulphur in electro-negative combination are, to some extent, antagonistic to what they are when electro positively combined. Its disintegration as $S O^3$ from the system, also demonstrates that an important function is discharged through its affinity for and combination with oxygen. The same conclusions will follow an inquiry into the physiological use and properties of phosphorus. Thus C S and P manifest their influence upon functional activity in connection with their affinity for and combination with O, which being accomplished, their effects become, to a certain extent, reversed, and their removal necessary to the health and activity of animal life.

The sensible effects of hydrogen, when in combination upon the system, are not so apparent, owing to the fact that it is so often combined positively and negatively in the same compound. It would appear that in growth and for nutrition, carbon holds, and is in turn, held by hydrogen in an electro negative relation, and in all the manifestations of animal life, while carbon and oxygen become united, the hydrogen is eliminated in electro positive combination with nitrogen as effete, carrying with it C and O with other effete products. Analogy leads us to infer that, as a nutrient principle, it would be attracted by the capillaries, and, as effete matter, it would become irritant to the same. For the promotion of both nutrition and elimination, H O is useful and necessary, not only by furnishing material for growth and waste, but by supplying a vehicle for dissolving and conveying the same. C with H alone is unfit for nutrition, a limited quantity being necessary of combined O in order to place H in a transition stage, from which it can be replaced by more O.

In some carbo-hydrogen compounds, the component elements are so completely held and neutralized that they manifest no sensible effects upon the system, as caoutchouc, wax, spermaceti. Others, as alcohol and ether, exhibit the specific effect of carbon in producing insensibility, while there is also observed a stimulating impression counteracting its tendency and lessening its intensity. That this difference in sensible properties is owing to the manner in which the elements are combined, will not be questioned, and that H is the agent thus counteracting the effects of C, becomes more evident from the fact of $C^2 H^4$ being respirable without noxious effects when diluted with air, and that H^3N is a diffusible stimulus. But again, PH^3 and AsH^3 are very poisonous. This apparent contradiction of properties in compounds containing H is removed, when we regard it as pabulum for building the fabric, and that it has the property of maintaining and stimulating the impressibility of the system for the action of whatever element it may be combined with. That in electro negative combination, it creates capillary plethora and inactivity, being food for assimilation; while in electro-positive union with N it is effete, irritating to the nervous

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system, repellant of the capillaries, arousing the circulation, and promoting elimination.

All vitalized germs contain nitrogen, and its presence in the atmosphere is necessary to the maintenance of life. Its constant presence in the excreta, demonstrates its necessity to the discharge of the functions of animal life, while the development of H^3N in the same demonstrates equally the discharge of those functions to be accompanied by, if not dependent on, and measurable with the combination of N and H, as the combination of C and O may measure the heat generated.

N O is very exhilarating to the nervous system, and although regarded as a neutral mixture with neither basilar nor acid reäction, yet the electro positive or basilar affinity of nitrogen, for oxygen is not neutralized, this requiring O^2. An atmosphere of H^3N, is fatal to plants and animals, and C^2N still more so, although H^3N counteracts, to some extent, the poisonous effects of C^2. In both nitrogen is in electro negative or radical combination.

In observing the effects of compounds containing C H and N, they are all found to be very poisonous, the addition of the neg. or radical nitrogen imparting this property in an intensified degree, which the further addition of O would appear to lessen. This is observed in the difference between the cyanides and cyanates. The addition of Fe to C^2N, counteracts its poisonous property much more effectually; but we will not stop to consider that. In this class of compounds are coneine ($C^{16}H^{15}N$), nicotine (C^{10} H^7N) and hydrocyanic acid (C^2 H N), all of which appear to produce paralysis of volition and motion, rather than sensation, differing in character and degree; in full portions, arresting instantly the functions of the mendula and spinal chord. As carbon, neutralized with O, suspends perception in the sensorium, counteracting the stimulating effects of both, so its neutralization with N would appear to suspend the faculties of volition, motion, and the ability of living tissue to respond to stimuli; thus connecting nitrogen with the exercise of those functions.

We are thus led to the conclusion that nitrogen held in electro positive relation with oxygen, stimulates assimilation—maintains the faculty of perception by holding the system responsive to stimuli, and constitutes a reserve for nervous action. When disintegrated or held in electro negative relation, becomes eminently letederious and subversiveof the functions of animal life; and its removal necessary to the maintenance of their integrity, which is accomplished by and with hydrogen.

Any agent determining the disintegration of nitrogen from the tissues of blood, would also to a corresponding extent release oxygen to seek union with C S or P, creating heat and vascular excitement with consequent lowering of vital force, and increased irritability of the system. The facilitating or withholding the disintegration of hydrogen would thereby respectively increase or dimin-

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ish the propertion, and consequently the activity of carbon in its affinity for oxygen.

As the result of the putrefactive decomposition of vegetable matter, especially in contact with water, is obtained $C^2 H^4$. This, we are informed, is uniformly associated with from 10 to 20 per cent. of $C O^2$ and a little nitrogen gas, which has been regarded as simply a mixture and not a union. There are reasons for considering it a quasi-combination and constituting a malaria.

In urea carbon is in process of combination with O, and gradually becomes $C O^2$, while the N unites to become H^3N, on exposure to air with water. Whereas in this case, for lack of sufficient agency to determine the union of N with H, and a tendency accordingly to the formation of H^3N, the property of carbon to combine to saturation with two equivalents of negative element, determines the formation of CO^2 and C^2H^4. But nitrogen can only unite with C or H as an electro negative element, the oxygen in combination being fully appropriated by carbon, and while the uncombined N is held by $C^2 H^4$, its condition must necessarily be electro negative. Such a gaseous combination, upon being diffused through the atmosphere, would be convertible by the action of the sun's rays into $C O^2$ and H^3N.

In considering the phenomena of malaria, they accord with what might be expected as the results of such combination. While C^2H^4 does not create intermittent fever, the presence of N held in quasi-combination would make it a most effective agent in lessening the vigor and activity of the system, as well as creating the phenomena of chill and malarial cachexia.

If we may be allowed to offer a suggestion from induction, an allotropic condition of the nitrogen of the atmosphere may exist, being rendered electro negative and held as such by atmospheric moisture in contact with luxurious or dense vegetation, and exercise a very determining influence in malarial development, being sufficient of itself for the production of all the phenomena. In short, the existence of uncombined nitrogen in an electro negative relation, may and most probably does constitute malaria, and the pathology of its action would accordingly be a lessening and withholding the vigor and activity of animal life in all of its functions, assimilative, perceptive, and responsive. The application of the poison may be slow and continuous, inducing cachexia or weakened vitality both in the blood and tissues, or an excessive exposure may produce an overpowering impression. The same result might follow constant exposure to malarial atmosphere, whether there be absorption or not, the impression upon the skin and mucous lining of the air tubes producing like results.

Although the formation of malaria does not necessarily cease upon the approach of winter, yet a continuance of cold weather by determining the removal of a larger amount of $C O^2$ from the body, thereby increases the activity of the vital functions, and enables the

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system to eliminate the poison and resist its influence. The lack of positive electricity in the atmosphere also increases the activity or consuming force of oxygen in cold weather and high latitudes.

We will here state what is generally conceded, and which would naturally result from the supposed cause, viz.: that although the system may be charged with malaria, it requires some determining influence to produce chill or fever, as alternations of night and day, heat and cold; any depressing agency, whether from mental influence, excessive exercise, or lack of proper food; also any increased or undue excitement or stimulus, taxing the vital energy. Also, that the induction of chill and fever is an effort to counteract the poison, eliminate it from the system, and restore the equilibrium of health. As a preventive, we would suggest a residence with a view to the avoidance of luxurious vegetation and dense growth, also of decaying vegetable matter, or water saturated with the same, and wet soils. That the prevailing winds be not from a locality thus infected, and that there be free circulation of air.

Unslaked lime may be beneficial in absorbing it. Electricity may destroy it. While heat and sunshine hasten its formation, they promote its diffusion and decomposition. Moisture holds it in solution, and at night it is accumulated, and rendered most active on drying up of the dew in the morning.

As a prophylactic we would suggest a cup of hot coffee carefully prepared very early in the morning, or a small portion of quinine, and avoidance of exposure to night air. Among remedies, whatever will relieve portal congestion and stimulate the secretions without debilitating the system, may be beneficial, as blue mass, castor oil, hypo-sulphite soda. Chlorate potass. and some other salines lessen fever, and assist in elimination. Quinia increases the irritability of the nervous system, the energy and activity of the circulation, and thus counteracts the effects of the poison. Arsenic acts by establishing a new action which is not well understood. Iron is beneficial by improving nutrition, rendering the blood more stimulating, increasing its capacity for oxygen. But above all cures, removal beyond malarial atmosphere is the surest and most effectual.

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REPORTS

FROM THE COUNTY OF COLBERT.

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DISEASES OF COLBERT COUNTY.

BY R. T. ABERNETHY, M. D., OF TUSCUMBIA.

By reason of continued bad health, I beg to be excused from making a report on the diseases of Tuscumbia to the medical association of Alabama, but as I have already commenced, will continue the report of my own case from March last. After a short improvement my hæmaturia returned and continued almost without remission for ten months, the blood sometimes small in quantity, sometimes large, but especially large after full meals, not very often in clots, and only two or three times showing the mould of the ureter. The amount of albumen in urine varied from $\frac{1}{8}$ to $\frac{2}{3}$ by volumetric measurement. Tube casts were also the usual concomitants. The urine was usually acid and rarely changed except from taking alkalies, of which the citrate of potash made with the bicarbonate and fresh lemon juice acted better than any other. Constipation and eruction have ever been persistent and troublesome. The right side of the head has been the seat of continued pain, at times attended with contraction of the right masseter muscle and accumulation of food between the teeth and upper lip. When the head was free, the pain would be transferred to the spine, which has during the year been tender to pressure in every region. At one time the pain in the head and slight symptoms of paralysis induced the belief that the primary disease was located in the spine, but of late the symptoms point significantly to Bright's disease of the kidneys. During the spring, under the drain of setons and use of hæmostatic remedies, the condition of the spine improved. In the summer I resorted to Bailey's springs. The water diluted the urine so that but little blood and albumen answered to the tests. To discontinue the water two days the hæmaturia would return as before. The water acted on my bowels, improved digestion, and strengthened me so much that I shall return to the Springs this summer, with hopes of decided benefit. In October, while in the act of stooping, I heard an audible snap in the region of my left kidney. Immediately my legs began to tremble and grow numb and useless, yet I was able to walk about three steps to a fence, to which I held on and talked some four or five minutes to a servant. From this I tumbled on the ground with a sort of fit or fainting, which lasted several minutes. Afterwards my legs were paralyzed and I was bedridden with much pain and soreness in the first lumbar vertibra and left kidney for

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seven or eight weeks. Under cupping, liniments, mustard and blister over the lumbar region, with purgatives and diuretics, the paralysis gradually passed away, and a new trouble, ascites, came on, while under the influence of tonics and sitting up. This yielded to the hydragog action of jalap and cream of tartar, at the same time taking 20 grain doses of the bitartrate to act on the kidneys. After an interval of some two weeks the dropsy returned and the abdomen enlarged sufficient to impede breathing, but again gave way to large doses of podophyllin and bitartrate of potash as a purgative and 20 grains doses of the cream of tartar as a diuretic. This treatment produced a happy effect upon my feelings, black watery discharges and a more copious flow of urine, evidently lessening the quantity of blood and albumen. After the water was dissipated, the bowels were sore and felt as if glued *en masse*. The urine assumed a brown color, less bloody and more tinted with bile, albumen and tube casts still present, albumen about one-twelfth in volume. The addition of nitric acid precipitated nitrate of urea on standing twenty-four hours. Suspended the cream of tartar after a month's use, and nux vomica and iron now for the first time improved appetite and strengthened my muscle. The muriated tincture of iron proved most beneficial, indeed was the first remedy which had relieved the ever attendant symptom of eructating wind. About the time the ascites began, while walking about, perspiration and a feeling of sinking would compel me to lie down. Frequently at night I would be awakened by a sense of sinking, followed by fluttering of the heart. Having regained strength and flesh these symptoms have in a great degree vanished, and I now look as if I had never any dropsical effusion.

It is useless to mention the many remedies I have taken, comprising very many of the most fashionable prescriptions for spinal irritation, hæmaturia and albumenuria, given by standard authors and journals, and by Drs. Kumpé and Desprez, for whose kind attentions I am deeply indebted. However, I can speak well of the virtue of large doses of the citrate of potash, of podophyllin and cream of tartar, and the tincture chloride of iron, and last but not least, of the malic elder. This is made by filling a bottle with the inner or white bark of the *sambucus canadensis* and adding to it the hard cider or apple vinegar. Eight weeks ago I began to take from one to three ounces of this acetate of sambucus three or four times a day, and was delighted with its effect, viz., an improvement in digestion, a regulation of the quantity of urine, so that I now pass water three or four times a day, and can sleep all night without being called up three, four and five times as heretofore. There is also a marked diminuation of blood and albumen in the urine. To give the malic elder a fair showing I have taken nothing else except chalybeate water, drawn from Winston's spring, which is a better diuretic than Bailey's water, and appeased my ever constant enemy,

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constipation, by lavements with cold water. I am walking about, but find that much exercise of mind or body is injurious.

I herewith append a report by Dr. Wm. Desprez, M. R. C. S. London, of Tuscumbia, Alabama, which will make amends for my failure to report the diseases of this locality.

REPORT OF WM. DESPREZ, M. D., OF TUSCUMBIA.

METEOROLOGICAL TABLE.

	Wet Days.	Dry Days.	Wind. N. & N. W.	Wind. S. & S. W.	Wind. W.	Wind. E., N. E.	Therm'r From	Therm'r To	Therm'r Mean.		No. of cases of malar. cerebro spinal p'monia. White.	Died.	Black.	Died.	Total.
March.....	9	22	13	12	6	...	26	72	56	Healthy.	2	...	2	...	4
April.....	8	22	7	13	8	1	32	89	72	Healthy.	1	...	2	...	3
May.....	8	23	2	3	13	12	40	84	71	Dry until 27th.	2	1	1	...	3
June.....	14	17	4	3	13	10	50	90	88	Sickly until 20th. *	1	...	3	...	4
July.....	15	15	4	6	10	11	76	95	89¾	Healthy.	...	...	1	...	1
August.....	15	16	6	5	8	12	70	92	85	Dry until the 15th. †	2	1	12	1	14
September	2	28	4	2	1	23	70	90	80	Very sickly until 27th. †	1	...	14	2	15
October.....	...	31	8	9	4	9	40	86	70	Healthy.	1	...	5	...	6
November	3	27	12	7	9	2	26	84	49½	do.	...	...	...	...	...
December.	4	27	12	8	10	1	8	69	11¾	do.	...	...	1	...	1
January....	6	25	7	12	7	5	32	70	47¾	do.	...	...	2	...	2
February..	8	20	5	12	8	3	38	78	55½	do.	...	...	...	...	...
											10	2	43	3	58

* During this time had dysentery, cholera morbus, cholera infantum, and pneumonia.

† Many cases of bilious fever, intermittents, and pneumonia.

There was very little sickness during the year 1870. In the latter part of May and beginning of June, we had some cases of cholera infantum, cholera morbus, diarrhœa, and a few cases of dysentery, but from the 15th of August to the 27th of September, was remarkable for an epidemic pneumonia among children under three years of age. Another peculiarity about this epidemic, is, that it seemed in a great measure confined to the negro race, from my having only ten cases among the whites and forty-three among the negroes.

I consider it altogether of malarious origin. My reasons for thinking so are these:

The town and its surroundings on the east, where the epidemic prevailed, are in the valley of the Tennessee, and extend about eight miles south from the river to the foot of the mountains, and about nine or ten miles in an easterly direction. The soil is a rich loam, with a subsoil of red clay, of a depth of from three to thirty feet, on a foundation of limestone of secondary formation, full of caves, and underground springs which in wet seasons rise to the

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surface forming three large ponds, which, when full, cover from 5,000 to 6,000 acres, and are at a distance of from one to seven miles, besides innumerable small ponds from one to ten acres in extent. These ponds are always dry in summer. Another prolific source of malarious disease is the muscle shoals. These shoals are about ten miles north-east of us, and it is a well established fact, that if the wind blows for three consecutive days from the east or north-east, it is invariably followed by sickness.

Col. Abernethy, a gentleman of close observation, used to have the north-east and east sides of his house closed during that time, and fires made in it.

In the spring of 1870, there fell a great deal of rain and all the ponds were full and overflowing.

By reference to the annexed table it may be seen that in the month of May, we had easterly winds for twelve days, and in June for ten. These were more or less continuous. I find that from the 27th of May to the 20th of June, I had three cases of dysentery, ten of cholera morbus, eight of cholera infantum, a few of diarrhœa, and three of pneumonia. The month of July was healthy, although we had easterly winds for eleven days, but those did not blow in succession, there being one or two from the east, and three from some other point.

The early part of August was remarkably healthy, the easterly winds commencing about the 15th, and continuing steady from that point, until the 27th of September, during which time we had a good deal of sickness besides the 29 cases of pneumonia that I had; two or three days after the wind changed the sickness disappeared as if by magic. Counting all the cases of pneumonia that I had during the year the number was 53, of which 29 occurred during this period, or more than half. Dr. Kumpé had 27, and Dr. Gilbert 11, making in all 91 cases.

Another peculiarity is that the disease was more fatal among the whites, two whites dying out of 10, about 20 per cent., whereas only 3 negro children died out of 43, only about 7 per cent, only one case a white was nine years of age who died with violent tetanic spasms, one negro seven years, died the same way; all the rest of the cases were under 3 years, the majority ranging from six months to twenty, and from the morbid symptoms of cerebro spinal inita-tion attending almost every case, I would be very much inclined to call it malarious cerebro spinal pneumonia.

I do not consider it necessary to give the symptoms of pneumonia, but we had in addition to them in almost every case cerebro spinal irritation; more than two thirds had slight spasms, with a peculiar way of holding up one hand, the elbow half bent, having the index and second fingers stretched out as if pointing at something, with the thumb, ring and little fingers forcibly drawn into the palm of the hand, at the same time the toes of the feet were

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bent up as close as they could be to the soles of the feet, the pupils sometimes contracted, sometimes dilated, and in one or two cases strabismus, the pulse ranged from 120 to 200, the respiration from 60 to 80; in one instance the inspirations amounted to 120; the thermometer ranged from 100 to 106 far. the cases were scarcely ever seen in the incipient stage, but when seen, one lung was generally effected throughout its extent, very frequently both; saw the case alluded to where the number of inspirations were so frequent; both lungs seemed affected throughout; the respiration was more like the panting of a dog after a hard run on a very warm day. It is almost useless to say that the child died.

The treatment was cupping along the spine, blistering the front of the chest, giving veratrum vidii to lower the pulse, calomel and ipecac or dovers powders, and, as soon as the pulse was down, gave quinine; we had very little more trouble after that. One thing is necessary to remark, that when they were cupped on the front of the chest, the disease did not give way and we were obliged to cup along the spine afterwards. The history of one case will illustrate the disease and its treatment.

May 20th.—E. S., age 20 months; had a severe spasm after a chill, and was seen by my friend Dr. Abernethy during my absence, (and who at my request continued in attendance with me until the case was dismissed,) inclined to sleep, pulse 140, respiration 50, subcrepitant rale all over the right lung, temperature 101, quite rational, keeps the left hand raised, elbow half bent, pointing with the index and second fingers. the thumb, ring and little fingers drawn into the palm of the hand, head slightly drawn back, pupils rather smaller than natural; cupped over the right lung, gave veratum and calomel and ipecac. May 21st.—Pulse 100, respiration 40, temperature 100; has occasionally a pointing of the fingers in a slight degree; gave quinine, continue treatment. May 22d.—The pointing with the fingers returned, pulse 130, respiration hurried 60, the inspiration being made with a snatch, toes slightly drawn into the soles of the feet, cupped freely along the spine, gave bromide potass 3 grains every second hour. May 23d.—All unpleasant symptoms gone, none making their appearance after the cupping; gave quinine and dismissed the case.

Some of the cases put on typhoid symptoms, after the first week, if a favorable change had not taken place before that time. In these cases the veratum was continued, giving in conjunction with it a mixture of turpentine, carbolic acid and glycerine.

May 3d.—H. G——, aged 20. Fell down suddenly in a fit, which was very severe and continued at intervals for nearly six hours, jaws locked all the time as in tetanus; during the spasms he would be drawn forward as in emprosthotonos, with hard jerking of his arms upwards. Dr. Abernethy, when I saw him, had bled him, and given him hypodermically half a grain of morphine and 10

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grains bromide potass; and by the rectum 1½ grains morphine; after I came we gave ½ grain morphine and 15 minims tinct. belladonna hypodermically, in about half an hour the spasms subsided; he went off into a kind of stupor from which he could be roused, but with some difficulty; we then gave him a good dose of croton oil which acted very freely. May 4th.—Still stupid, complains of pain in the epigastrium, cupped freely along the spine and back of the head and gave ½ grain calomel every hour; as the blood was very dark and not disposed to coagulate, gave him chlorate potassa and tinct ferri muriat. May 5th.—Feels better, is easily roused, talks rationally, says his head is intensely hot, and when the nurse forgets to renew the cold applications, calls for them; at 5 p. m.. got into a stupor from which he could not be roused; shaved the head, took 8 ounces of blood with cups from behind the ears, after which he seemed quite rational; continue calomel and mixture. May 6th.—9 a. M., says he feels better, but can scarcely keep awake to answer a question; apply a blister to back of the neck and nape of the neck, give quinine until evening; after that date he was dismissed.

NOTE.—The case of H. G., regarded by me as one of cerebro spinal meningitis, has been added to this report from the fact that the opiate treatment is considered a point of interest. It was adopted because a pain in the head was the only complaint, gathered from the previous history of the case. The bromide of potass. and morphine by rectum and hypodermically after 5 hours trial failed to relieve the tetanic spasms, which ceased in about *half an hour after the belladonna was added.* With the departure of tetanus, the patient became conscious but was blind and stupid, and when tickling to arouse him was so irascible as to draw his knife and strike widely and wildly. I was in doubt whether the blindness was due to disease or to medicine. Dr. Kumpé had a case in which blindness came on after the first convulsion. I saw one case which lost an eye by suppuration, (protracted case) and another which was blind, lived several days in a comatose state and died. The patient who lost the eye could see at times, was rational all the time except during the spasms, which came on at irregular intervals and lasted over two weeks. The spasms in this case yielded to morphine, spirits turpentine and chloroform in combination.

The following case of cerebro-spinal meningitis is reported by Dr. George E. Kumpé:

C. G——, aged fifteen years, who, during the summer and early part of the fall, had suffered much from intermittent fever, went hunting on the 31st of October, and on the following day complained of a sense of coldness and indisposition to stir. On the morning of the 2d of November, while bringing a bucket of water

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from the spring, he came near falling down several times. After arriving at the house, and while attempting to wash his face, he fell on the floor, and at once seemed unconscious of what was going on around him—could utter only incoherent sounds, and was in constant motion, trying to turn, and attempting to get up, but without success. He was so uncontrolable that it required several persons to keep him from falling out of bed. I saw the patient at 5 o'clock P. M.; found him exceedingly restless; countenance deeply flushed; pupils contracted, and to all appearance was *blind*, for if not prevented, would strike his head against the bed posts or any other object in his way. His pulse was 90, full and hard. Extremities cool, hands flexed upon the forearm, fingers extended, thumb drawn towards the palm of the hand, and forearm rather inclined backwards, Tongue coated thick, dirty, white. I commenced the treatment by opening the temporal artery, taking about 20 ounces of blood, which could only be accomplished by the help of four strong men, so violent were his efforts at resistance. I then administered 15 grains of calomel, which, in six doses, was followed by castor oil one ounce, spirits turpentine one drachm, croton oil one minim, which, in the course of four hours, produced two free alvine evacuations, and at the same time he passed urine for the first time since attacked. On the morning of the 3d I found him still much in the same condition as the day before, only he had intervals of quiet between his restless paroxysms. Shaved his hair off and applied a blister over the whole head, and half way down the spine, and gave bromide of potash 10 grains every second hour, until quiet and sleep was produced. At noon, on the fourth day, found him somewhat rational, the blister having drawn well, and could *see better;* yet, when a cup of water was handed him, he would make several unsuccessful trials in grasping it. His thirst was intense, and was asking for water incessantly, and had slept scarcely any. As he had been having chills, and was cold when first attacked, I thought it best to put him under the influence of quinine and ordered five grains every two hours until three doses were taken, and also ordered the bromide of potash continued, with the addition of a ¼ grain of valerianate of morphia, to be repeated in three hours if sleep did not follow the first dose. The second dose had to be given before he slept, when the bromide was continued, but the morphine withdrawn.

November 5th.—Patient more rational, talks better, pupils were dilated, has occasionally paroxysms of great restlessness, which will last for an hour at a time, when he will turn his head to every quarter of the globe; not inclined to sleep; had his bowels moved once, and urinates frequently. Continue bromide of potash four grains every three hours, with a drachm of mixture containing equal parts of tincture valerian, Hoffman's anodyne, and tincture hyosciamus with three drops of black drop. Under the use of this he rested more quietly, but on the following day his pulse became more fre-

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quent, conjunctiva considerably injected, and complained of pain in the head; ordered castor oil half ounce, and spirits turpentine one drachm, which, in three hours, produced two evacuations; continued bromide of potash and omitted mixture.

7th.—Found patient much as yesterday; pulse 130, and complaining of his head. Reäpplied the blister over the head, and gave a third of a grain valerianate morphia to procure sleep.

8th.—Blister drew well; patient's head free from pain; eyes not so red; pulse 135, and tongue disposed to be dry; ordered emulsion of turpentine, glycerine and carbolic acid, with two drops of tincture of veratrum every third hour.

10th.—Found the patient much improved every way, tongue moist and cleaning, has appetite; pulse 80; eyes natural and from this time convalesced rapidly, and made a speedy and perfect recovery.

Case 2d.—July 15th, 1870.—Was called to see S. B., a negro man who spent last year in Arkansas, where he had been suffering all the Summer and Fall from chills, in consequence of which he was much debilitated. Had a chill on the 8th and 10th; on the 13th, while sitting on a bench he fell to the floor and was for sometime unconscious; was restless and had convulsive movements, which steadily increased until they resulted in regular convulsions, recurring at intervals of from half to one hour. From the singular manner in which he was attacked, his colored friends believed him to be tricked or conjured and bestirred themselves to find some sable Doctor who could take the trick out of him, and would probably not have called for a physician at all, had the landlord not found out the condition of things and sent for me. I saw the patient on the noon of the 15th, in a condition approaching complete coma; eyes half open; pupils dilated; skin cool; limbs rather rigid; pulse 84, full and strong, and having hard convulsions every half hour; bowels not evacuated for the past three days; ordered him calomel five grains, denarcolized opium one grain, ipecac one grain, every four hours, until four doses were taken, to be followed by castor oil one drachm, and turpentine one ounce in four hours after taking the last dose, if the bowels were not moved; had his feet immersed in a hot ley bath for an hour, his head shaved, and a blister applied.

January 16th. Patient ceased having convulsions after *taking first dose as above;* blister drew well, talks incoherently, and is disposed to pull the cover over himself, his eyes staring wildly about, appearing as if they would burst from their sockets, and was somewhat deaf. His bowels had acted well from the medicine; gave bromide of potash 18 grains every three hours.

17th.—Condition of patient much the same as yesterday; had not slept at all; directed sulphate morphine ¼ grain, with bromide of

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potash until sleep was procured, when omit morphia and continue bromide potash.

18th.—Slept nearly five hours under the influence of morphia; more composed, yet is still disposed to tug and pull at his bed clothes; looks wild, and is not disposed to sleep, except under the influence of opiates; applied another blister to the back of head and neck.

19th.—Blister had drawn well; patient improved every way; is more quiet, and his intellect is quite good, hearing better, and eyes assuming a more natural expression. Under the influence of a tonic the patient recovered without any further trouble.

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NECROLOGY OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

To the President of the State Medical Association:

SIR: In accordance with your wish that I should make out a necrology of the members of the State Medical Association, I wrote to upwards of thirty members—to you among the rest—asking for information, and received answers from only four, viz: Doctors Mabry, Michel, Osborn, and Smith. I am indebted to Dr. Mabry for the following list, and beg to take this opportunity of returning him my sincere thanks for it.

I remain respectfully yours, &c.

WM. DESPREZ.

J. B. Johnston, First President, died in Kentucky.
—— Holt, second " " " Montgomery.
C. E. Lavender, once " graduate Trans-Univ., died in Selma.
W. N. Bowling, " " Prof. Univ. Nashville, died in Montgomery.
Cherry Anderson, once President, died in Augusta, Georgia.
—— Crawford, first secretary, " abroad.
T. Lee Fearn, died in Mobile.
P. H. Lewis, " " "
F. E. Gordon, " " "
L. E. McLesky, " " "
J. D. Echols, " " Selma.
Julian Marks, " " "
Wm. Morgan, " " "
J. Morgan, " " "
Drewry Fair, graduate Medical Col. of Charleston, died in Selma.
Silas Ames, died in Montgomery.
—— Hinckle, " " "
H. V. Wooten, once Professor Univ. Nashville, died in Lowndesboro, Arkansas.
B. R. Hogan, once assistant surgeon U. S. A., died in Louisiana.
—— Clanton, lost by burning of steamer P. Tombecbee.
P. H. Cabel, died in Brooklyn.

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REPORTS

FROM THE COUNTY OF ELMORE.

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DISEASES OF ELMORE COUNTY.

BY L. S. GREENE, M. D., OF WETUMPKA.

It is unnecessary for me to describe the particular location of Wetumpka and vicinity, as it has been so well done by my friend, Dr. J. C. Harris, of this place, in a recent essay on the climate and fevers of the South Western, Southern, Atlantic and Gulf States, &c., published in the New Orleans Journal of Medicine. By reference to that paper you will see that Elmore county, particularly that portion in which we reside, is well adapted to malarial diseases in every form. It is said that uplands are comparatively exempt from miasmatic fevers, but my experience for the last few years, is, that the people living on the hills around our town, are not only equally subject to attacks, but to some extent more so, and they seem to succumb more easily to this form of disease, which is usually complicated, among them, with inflammation of the intestinal canal, and requires more prompt and active treatment than in the lowlands, every case having more or less predisposition to collapse.

In the low flat lands below our town, between the two rivers, particularly in the summer when they become very low, leaving in some places lagoons or small lakes to stagnate, surrounded by rich soil and margined by all manner of vegetable remains that have been swept from above by the winter rains, leaving them "ripe for decay," and for the last few years not lacking for the one necessary ingredient "rain," to give rise to the most abundant evolution of miasm, that not only invades the swampy country below, but sweeps like a relentless enemy, even into our town and the surrounding hills above us. And by the time fall has pretty well advanced, which is by far the most dreaded season, because of the fatality of diseases, we see anxious faces, yellow from the extreme heat and exposure, wishing and praying for frost, the only panacea for this unseen enemy.

But I am happy to be able to report that the year 1870 was comparatively exempt from any very malignant form of disease, there being but few cases of pernicious and only four cases of hæmorrhagic malarial fever, all of which came under the care of my esteemed friend and preceptor, Dr. E. Mason, of which I shall say more hereafter.

During the month of March we were visited by epidemic rubeola; although it was confined principally to the negro population, on

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some localities it became very malignant and fatal, being complicated with pneumonia, assuming a low grade resembling typhus, very rapid in its course, the patient having a tendency to go into collapse in a few days after attack, and in one case in a few hours. These cases would have the usual premonitory symptoms of measles, generally accompanied by a well marked chill, then the skin became hot and dry, headache, pulse frequent but soft and rather small, soreness of throat, eyes red and watery, cough hard and dry, and occasionally vomiting. I did not see but one case that I thought would bear venesection, during the month, which recovered. But, owing to the tardiness of the negro to send for a physician until the last moment, when often it is too late to be of any service, and their general inattention to one another in nursing, I cannot give a correct history of any of these cases with any satisfaction to myself or the profession generally, inasmuch as I could not make a prescription in many cases with any certainty of the directions being followed, and the general management would almost always be forgotten. In many cases it required but very little treatment. But when attended with pulmonary inflammation, venesection was out of the question, as it required the most powerful stimulants to prevent them sinking into collapse.

Before the month was out, however, the disease seemed to commence afresh among the whites, and from that time until about the twentieth of April, it became pretty general again, at which time it began to subside, and by the first of May had almost entirely disappeared from our midst. Many of the cases were severe, attended with pulmonary inflammation, but none were fatal. I learned, however, from my friend, Dr. J. K. Rushin, of Tallassee, that rubeola was extremely malignant and fatal among the factory hands of that place.

One very remarkable feature of the disease was the profuse eruption, it being confluent in many cases, the sequelæ also in many cases were very serious.

With the exception of a few cases of dysentery the month of May was almost entirely exempt from disease, and until about the middle of June there was very little change. The weather became very hot at this time, and on the twentieth, the first case of bilious fever made its appearance, which was soon followed by others, although these cases were all mild and yielded very readily to proper treatment. The range of temperature during the month was 17° Far., the maximum being 97°, and the mean 74° Far., winds principally from the southeast, varied chiefly between southwest and northwest. Quantity of rain rather large for June, especially the latter part of the month.

July was almost a counterpart of June until about the middle of the month; when the winds changed to the east and northeast it became very hot and sultry. Very little rain up to this time. Inter-

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mittent and remittent fevers became very common, dysentery and some cases of diarrhœa made their appearance, and a few cases of congestive fever, principally of the bowels, none of them fatal, so far as came to my knowledge.

The first of August cloudy with constant showers of rain up to the tenth, winds principally south and southwest, extremely hot. Intermittent and remittent fever seemed to prevail extensively among all classes; towards the last of the month a few cases of congestive fever; none of them were of the algid form.

Very little change up to the first of September. About the commencement of the second week, however, the diseases became more grave, congestive fever more common and fatal. The first case of hemorrhagic malarial fever made its appearance on the 11th of the month, which was under the care of Dr. E. Mason, and as he has kindly furnished me with a history of all the cases which were under his care during the fall, (the only cases which occurred in the neighborhood) I herewith take the liberty of transcribing them. You will see his report extends from the 11th of September to the 15th of October, inclusive, but no cases occurred after the latter date.

The following cases are reported by Dr. E. Mason:

My dear Doctor.—In reply to your request to furnish you with an account of the cases of hemorrhagic malarial fever which occurred in my practice during the past season, the following imperfect notes are cheerfully placed at your disposal:

Case First.—September 11th, male, aged 18 years.

Case Second.—September 21st, female, aged 12 years.

Case Third.—September 29th, male, aged 40 years.

Case Fourth.—October 15th, female, aged 30 years.

The first case convalesced on the fifth, the second on the seventh, and the third on the ninth day, the fourth case died on the eighth day. These cases were all subjects of recurring attacks of intermittent fever, and each commenced with a severe chill. Nausea and vomiting were constant and obstinate symptoms, and yellowness of the skin and eyes, were sometimes observed after the commencement of these troublesome symptoms. Hæmaturia always commenced during or immediately after the first chill. The bowels were generally constipated and not easily acted on by purgatives. The pulse was quick but not full, compressible would perhaps give a better idea of its condition. In the three recoveries no eruption was noticed, but in the fatal case a thin eruption very much resembling rubeola, came out immediately after the fever began to rise, and continued about forty-eight hours. The matter in this case was of the "coffee ground" character from the beginning. There was very little delirium observed, but there was more or less stupor in each case. In the fatal case the urine became entirely free from hemor-

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rhage twenty-four hours before death. This lady was the subject of incipient phthisis, and possessed no constitutional stamina at all. Believing this most terrible malady to be purely of malarial origin and generally the sequel to neglected intermittents, I relied entirely in the treatment of these four cases, upon what I conceive to be the sheet-anchors in all malarial diseases, quinine, calomel and opium, variously combined as seemed best calculated to meet existing indications. Where the tongue became red and dry I added to these pretty free doses of turpentine. I did not ignore such external agents as are usually resorted to in grave cases, but I do not consider them of any essential importance. Quinine must be used in some way, and we should not feel that we had done our duty until the system is brought fully under its influence, either by the mouth, by the rectum, hypodermically or epidermically. If this potent antidote combined with mercury and opium, judiciously and promptly resorted to, and carefully watched, does not bring relief, I have not the slightest hope in any other class of medicines, as curatives. The after treatment consisted of a continuation of quinine, iron and nux vomica, which answered an excellent purpose.

It is a fact, perhaps worthy of mention, that the patients who recovered have enjoyed perfect health since these attacks, although previously suffering from chronic chills for many months.

The remainder of the month was mild with but few cases worthy of notice. November and December were noted for their extreme healthfulness, a few mild cases of pneumonia, complicated with malaria, were all that came to my notice.

This brings us to January, 1871. During the first part of the month it was very warm and dry, with very little sickness of any kind; but about the middle it became cloudy, with constant showers of rain, the thermometer ranging from 39° to 65° Far., winds principally from the southeast, varied between the northeast and northwest. Pneumonia soon made its appearance, at first principally among the negroes, who were badly clothed, and perhaps worse fed, owing to which causes, it was necessarily fatal in a number of cases. But although it was equally as severe among the whites, I did not see or hear of a single case terminating fatally, owing perhaps to better nursing and better attention generally, and also because they were in a better condition of health at the time of attack.

Many of these cases were complicated with malaria, and when first called in, although they were apparently dangerously ill, yet a good mercurial purgative, (as the liver was always more or less deranged) and a few doses of quinine would arrest the disease, and the patient would be convalescent in a few days. In some locations it appeared almost altogether among children.

About the first of February, dysentery became the prevailing disease, but in general it was easily managed. With this exception

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the month was comparatively healthy, as far as I could learn, throughout the country. From the first to the twentieth, there was scarcely any rain at all. The weather was mild and rather warm throughout the month. Up to the present time in this month, there has been a few cases of intermittent fever, and also pneumonia, principally among the children, which seems to be on the increase as the month advances. And as your reporter here concludes this imperfect account of the diseases of Elmore county, (he feels that *it is imperfect*,) inasmuch as he has not been able to bestow the proper amount of labor upon it that should have been done, and respectfully asks in its behalf the indulgence of the association.

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REPORTS

FROM THE COUNTY OF GREENE.

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DISEASES OF THE FORK OF GREENE.

BY P. B. MINOR, M. D.

Perhaps no section of country is more exposed to malarial influences than the "Fork of Greene," a portion of this county which derives its name from its geographical situation between the two rivers, the Warrior and Bigby. These two tortuous streams, winding their way on either side of the "Fork," have a large extent of swamp, subject to one or more annual overflows, heaping up, as it were, at every man's door a great mass of animal and vegetable matter, which awaits for the hot sun of summer to develop into the deadly malaria. Even with these great natural causes of disease, previous to the war, we were able to have comparatively a healthy country, so complete was our system of drainage, and so perfectly were our hygienic regulations enforced upon our slave population; but when we were deprived of our labor, our ditches became filled up; our fields were suffered to grow in noxious weeds; our people began, by their general appearance, to show too plainly the effects of an impure atmosphere, and then the deadly hemmohagic malarial fever, heretofore scarcely known among us, began to show itself. Our fevers seemed to change their character, from the fact that they had subjects to work upon who were depressed from moral as well as physical causes. Even among the negroes (the very people that our Maker, in His wisdom, designed to withstand malaria) disease seems to have changed its type, and the mortality among this unfortunate class is now much greater than before the war. The negroes constitute a large portion of our population, and since they have been left under the control of their own animal instincts, (or still worse, the teachings of the men who call them "fellow-citizens," when they want their votes,) their habits, diet, and general surroundings, have undergone an entire change, hence the change in the character of their diseases, being generally of an æsthenic kind. It has been the intention of the writer of this paper, to collect statistics of the mortality of the negro population, but the task has been a very unsatisfactory one, from the fact that many are taken sick and die without any medical aid being afforded them. In this respect their condition is truly a pitiable one, and some legislative action should be taken for their relief, as many of them are unable to pay for, and often die for the want of, medicine. This is no reflection upon the benevolence or philanthropy of our medical men,

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as the negro population is so large that it is impossible to attend to the charity practice among them without great detriment to other business. If some little of the time which is consumed by those who control the negro politically, was given to the consideration of some measures for the relief of the sick and distressed among their "colored fellow-citizens" so-called, then, indeed, they might claim to be friends to the black man. Among this class of people venereal diseases have largely increased, which, in the majority of cases, are neglected or improperly treated before physicians are consulted. Many of them who are unwilling to incur any expense in procuring a physician for their own individual relief, will allow the children, and those who are too old to do any work, to die without any attempt to provide medical aid. The females generally lead lives of indolence, and where they can procure it, use coffee, tobacco, and whiskey to excess. Neuralgia, uterine diseases, &c., are very prevalent among them. Among this class the rate of mortality from disease is very great. To the benevolent physician who is now forced into the sick room of the freedman, the contrast between his former comfortable condition, with the clean, well ventilated room; the prompt and reliable nurses; the good diet, and his present filthy state, is painful in the extreme.

Throughout the past year our diseases generally showed the influence of malaria, with but few exceptions. In the early part of the winter, pneumonias of malarial type were quite common, and were easily managed by the plan recommended by Dr. E. P. Gaines in his excellent paper published some years ago. Cerebro-spinal meningitis prevailed to a great extent, and with terrible fatality, particularly among the poorer class of the white people and the negroes. Its duration was generally brief, terminating fatally or in decided convalescence in a few hours. Many of the cases were attended with violent delirium and convulsions; the pupils of the eyes were generally contracted; headache and neuralgic pains sometimes preceded an attack of this disease; bleeding, active purgation with calomel, and counter-irritation, were generally resorted to, but the result has been unsatisfactory. Bleeding, where it was used at any stage of the disease, except at its very onset, was almost always followed by a fatal result. I will add, in relation to this disease, that it was most prevalent along the edges of the river swamp.

Intermittents and remittents began earlier in the year than usual, though the remittents were mild in character; the intermittents, while they are easily broken up temporarily by quinine, cannot easily be cured by the usual treatment of arsenic, iron, &c., being almost sure to return in nine, fourteen, or twenty-one days. These intermittents are more chronic than ever known before, many of them lasting through summer, fall and winter, producing complete impoverishment of the blood, enlarged spleen, and rendering many of our population fit subjects for the hemorrhagic malarial fever.

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Hemorrhagic Malarial Fever.

This disease, characterized by bloody or red urine, has prevailed to a greater or less extent in this county for many years, but I am happy to say with far less fatality during the past year than heretofore.

The subjects of this disease are nearly all young persons, the blacks are not so liable to it as the whites, but I have seen many cases among them. The feature which has attracted most attention, is the red colored urine, and it is apparently sanguineous, but not always really so. This urine generally lets fall a copious sediment on cooling, of a red color, which is to a great extent, re-dissolved by heat. The disease generally begins with a chill, and the subjects are generally those who have had chills for some time; there is headache, pain in the back, and great mental anxiety; the chill is followed by a fever of high grade, and a discharge of red-colored urine. The skin is hot and dry; the stools are almost always clay-colored. The skin suddenly assumes a bright yellow color after the fever has lasted for twenty-four hours or longer. The patients express a feeling of relief after the discharge of red-colored urine takes place. There is a fullness in the right hypocondriac region, sometimes a decided enlargement of the liver. The duration of this fever is uncertain; some cases have only one hemorrhagic discharge, followed by fever of a few hours duration, then jaundiced skin, with great weakness and slow convalescence. Indeed as Dr. Osborn has truly observed, the convalescence is slower than in almost any other disease. The urine, if we were to depend on the color alone, would undoubtedly be pronounced sanguineous; but a red-colored urine, which is devoid of blood, sometimes precedes, and almost always follows, the real hemorrhagic discharge, if my own imperfect mode of testing it can be relied on. The tests used were heat and nitric acid for the albumen of the blood (presuming that there could not well be blood without some albumen.) The sediment left at the bottom of the vessel was also subjected to the heat from a blow-pipe. In the early stages or the disease these tests generally gave evidence that blood was in the urine. *But after the most active stage of the disease*, I am of opinion that the red color is due to bile and other coloring matter carried off by the kidneys. Then a linen rag dipped in the urine and dried would assume a yellowish tinge, which touched with nitric acid would become red; heat would re-dissolve most of the sediment, and no coagulation was caused by applying either heat or nitric acid. Hence the importance of making frequent tests of the urine through the different stages of the disease. The kidneys perhaps already congested, are so irritated by the excess of morbid matter which they are required to eliminate, and the afflux of blood is so great to these organs, as to cause a rupture of the delicate tissue of the Malpighian bodies, and the blood finds it way out.

At first our treatment was by calomel, and larg and repeated

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doses of quinine, but we were not very successful with our cases. Among the people there is a strong and growing prejudice against the use of quinine for any length of time, as it is thought to keep up the red-colored discharge from the bladder, and while I am unwilling to say anything to keep up a vulgar prejudice, I must admit there is some ground for this popular opinion, or error as it may be, for I have, in many cases, where the bloody urine had ceased for days, prescribed quinine as a tonic, and its use has been immediately followed by a return of the hemorrhage. In one case I made as many as four different attempts to use this valuable tonic, and was each time forced to leave it off, as the hemorrhage returned every time with pain in the back, and fever. I do not think I have ever succeeded in arresting this fever by quinine, even when there was a remission of fever. I have found it hard also to make any impression by the use of mercury alone, and usually prescribe it with rhubarb or jalap, as an active purging seems to do good. I was led to the use of mild diuretics by Dr. Osborn's essay upon this fever, and selected the bi-carbonate of potassa for that purpose; its effects were very gratifying, the character of urine generally changing for the better under its use, in doses of five grains every three or four hours. May it not be that this remedy acts so beneficially by neutralizing some acid condition of the blood? Perhaps lithic acid, which I believe is in excess in these cases, and which is so great an irritant of the kidneys? Diaphoretics are very valuable in treating this disease; the warm bath acts well, and I have seen many cases where convulsions were imminent, saved by their use. The tincture of iron I think does harm in the active stage of the disease, but is invaluable as a tonic in continued cases.

I trust your learned body will pardon me for having mentioned so many things not strictly within the province of your reporter, when I say I claim for our plan of treatment of the above diseases, some merit, as it is a rare thing for the physicians of the "Fork" to lose a case, while elsewhere it is so fatal. I submit to the association the result of my observations in this affection, earnestly hoping that the chemists and pathologists among you may find therein something which may throw further light upon the subject.

It will be seen that nearly all our diseases can be clearly traced to a malarial origin, and it is the duty of the medical advisers of the people to devise some sanitary measures by which we may be able to resist the influences of an impure atmosphere. We cannot reopen our obstructed ditches, nor turn under the sod the noxious weeds of our neglected fields, until we can procure more efficient labor; but we can recommend some plan that will modify and lessen the effects of a poisonous atmosphere. These are the removal of decayed timbers from about our premises; the thorough cleanliness of yards; the daily habit of lighting fires in houses through the sickly season, and the wearing of light woolen clothing in summer. Where these measures for safety are observed, sickness is much lessened.

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REPORTS

FROM THE COUNTY OF HALE.

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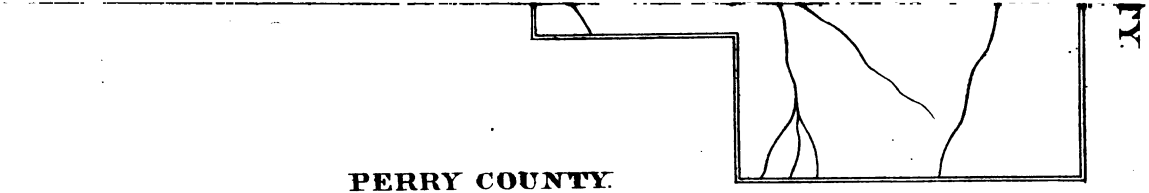

PERRY COUNTY.

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TOPOGRAPHY, METEOROLOGY, AND DISEASES OF HALE COUNTY.

BY T. C. OSBORN, M. D., OF GREENSBORO.

This is one of the new counties established since the late war, situated in the western and central portion of the State, bordering on the east side of the Warrior river, made up mainly from Greene, with slips from Tuskaloosa on the north, Perry on the east, and Marengo county on the south, and lying between the parallels of latitude 32° and 33° north, and upon the 11th degree of longitude from Washington. To accompany this paper, I have prepared a rough diagram, giving the general features of the county, from which can be seen the diverse tendings constituting its remarkable hydrography. The inclination of the county does not obey the general slope of the State towards the gulf, owing no doubt to the peculiarities of its water sheds, one of which runs parallel along its entire eastern face, and curving sharply around its southeast corner, continues its course along the southern boundary, and bluffs against the river at Demopolis, whilst the other extends across the breadth of the county from west to east, constituting the elevated ridge upon which Greensboro is situated, and creates two distinct and important sections in its topographical character, all of which slope rapidly towards the river on its western boundary.

The altitude as indicated by the barometer shows but little difference between the northern, middle, and southern portion of the county, being about four hundred feet above the gulf level; but the parts between these points are very variable, making in some places as much as one hundred feet below the three stated elevations. This is especially the case in the southern section upon the banks of Big Prairie Creek, which runs through the middle of the Marl Basin region, where all the water-courses terminate in this rapid stream, whether from the north or the south of it. This creek runs meanderingly from east to west, and empties into the river a short distance above Arcola, whilst all the other important streams in this section run into it from both its sides, and nearly at right angles to its general direction.

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constitutes the rich prairie, cedar hammock, slough, and canebrake lands, so famous for its wonderful fertility in the production of corn and cotton, as well also as for its intensely malarious emanations. It is likewise the only region in the county in which artesian wells are to be found; the boldest of them being upon the border of the river, whilst all afford an abundant supply of limpid water, which is greatly relished by man and beast. They are scattered freely over the entire section, many of them having a depth of something over four hundred feet, but the general average may be stated at about 265 feet, with a temperature of 65° of Fahrenheit's thermometer. The water is deliciously pure, but has a feebly sulphurous odor, and there is only one of the number which has a claim to medicinal qualities. This well is situated in the town of Newberne, and for several years past has been resorted to by persons afflicted with dyspeptic complaints, as well as of disorder of the liver and kidneys, but of its virtues in these afflictions I can say nothing from experience. To my taste it has a disagreeable flavor, resembling more than anything else a solution of axle-grease and rusty iron; and it is difficult to persuade myself that the iron pump in it is not responsible for all the virtues it is reputed to possess.

Owing to the fact that many of these wells have, for the want of attention, become filled up by caving, and thereby lost, whilst others afford only feeble streams above the surface, the number now in existence is fully one-third less than it was in 1853. In fact, since about that time, I do not remember any new ones, whilst but few of them continue as flush as when first bored. There is one at Eastport, however, immediately upon the river, which is remarkable in the continued boldness of its supply of water. It has a depth of 290 feet, a temperature of 64°; and the most astonishing feature about it is the fact that, in boring for it, the augur went down the last fifty feet by its own weight, without increasing the size of the stream, from which we may rationally infer that there was a subterranean lake at the bottom, and hence the steady current, two and a half inches in size, and falling over two feet from the stem ever since that time. No efforts have succeeded in getting these wells north of the transverse water-shed, nor upon the shed itself, because the face and character of the country is here entirely changed.

I have drawn a bold line across the diagram from west to east, which, it will be noticed, intersects the spot upon which the town of Greensboro, the county seat, is situated, and desire to call attention to this elevated ridge, and the two distinct sections north of it.

THIS ELEVATED RIDGE OR TRANSVERSE WATER-SHED

is in some places very narrow, and there are spots upon it so sharp and spine like that water-courses rising in the same field, within a

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stone's throw of each other, as is the case with Pickens and Caldwell creeks, one and a half miles east of Greensboro, run in nearly opposite directions, and the main street of Greensboro, running east and west, throws its surplus water off due south or north by channels directly opposite and at right angles with each other. There are many places, however, where it is one or two miles in breadth, and its general course is serpentine, but the drainage is everywhere rapid upon both of its sides. The water thus carried off falls presently into flat lands and gives origin to a great number of switch-cane marshes, from which arise, as we suppose, most of the miasma that renders the ridge more or less unhealthy. As a rule, however, the health of the inhabitants is better than that of those living in the sections either north or south of it. It is an oak ridge, with a sandy loam soil, which is early undermined by a rich yellow clay substratum, and is very productive in every variety of vegetation, especially as its comparative elevation attracts more rain than the regions upon either of its sides. A few of the earliest settlers of this part of the county are still to be found enjoying vigorous old age, but none I believe above four score years, and only a few left standing at three score and ten. My conviction is that the average duration of life of those born here must be considerably less than in many of the counties to the north of us; but as that kind of population is difficult to arrive at with any degree of certainty, there can be but little reliance placed upon such data as is at our command. The diseases are mostly malarial, with now and then scattering cases of typho-malarial fevers, and at distant intervals of time there are contagious and infectious diseases, apparently much modified by the salubrity of the elevated location.

As there is a striking distinction between certain portions of the county north of Greensboro, I have drawn a line bearing west of north, and have named them respectively Pine Hill and Plateau Sections, the topography and salubriousness of each requiring, in my estimation, to be noticed in separate chapters.

The North-East Section,

or pine hill region, proper, rises gradually up to a level with the top of the longitudinal water shed, and affords, with few exceptions, the sources of the creeks, several in number, which meander to the river; and it is not a little singular that after dipping regularly south, they bend ultimately to the northwest, emptying into the river north of a parallel with their sources, and all of them running quite across the breadth of the county. This occurs so constantly that but one inference can be drawn from it, which is, that the northwestern corner of the county has much the greatest declension, and this inference is supported by the fact that in this region there are several large sized lakes, some of which are quite clear, beautiful,

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and abundantly supplied with fish. They verge upon the river bottom lands, and a few of them are evidently parts of the river bed in former times.

Owing to the peculiar hydrography of the pine hills section, and to the indigence of the people, malarious diseases prevail throughout the year, and there are but few of the inhabitants who can be classed as comparatively healthy. They are great eaters, of spare habit of body, wanting in energy, peculiarly sallow, have enlarged spleens, and are often dropsical from repeated attacks of tertian fever. It is no guess work to say that I have treated forty cases of anasarca per annum from this region of country alone, without ever losing a patient, because the effusion was the result of malarial debility, and required only the proper administration of quinine and iron to insure complete success. An astonishing fact connected with this history is the tenacity of their systems in sustaining life under such a pressure of continued affliction upon their vital powers. It is the same thing, year in and year out, chills and fever; and yet they fancy themselves to be in tolerable health until dropsy or some acute condition brings them to the verge of the grave. Another matter worthy of attention in the history of these people is that they cannot and dare not try to reside in the marl basin region for more than one year at a time. The intensity of the malaria in this section makes sharp and short work with the feeble constitutions which they carry along with them. I have known many to try it, but very few have ever succeeded in the effort.

After several years duration in this state of health, they get to be in that condition which I have designated as "touch-and-go cases," or a general breaking up in the recuperative powers of the constitution. During the month of March, 1870, there prevailed on Five Mile Creek in this section, a fearful epidemic of cerebro-spinal fever in a single neighborhood which proved fatal in nine-tenths of the persons attacked, and confined its attacks to the white race almost exclusively; whilst in the southern section, in the neighborhood of Newberne, where a similar visitation prevailed at the same time, there occurred fifty-five deaths out of sixty cases attacked, chiefly amongst the negro race. These two neighborhoods are twenty miles apart; extremely dissimilar in geographical character, as well as in the kind of people with which they are populated. In no other parts of the county was there a single case, so far as I have been able to learn. And stranger still there occurred in January last, another flare up of the epidemic in the same places, lasting only about two weeks, with a mortality quite similar to its first invasion, appearing and disappearing at the same time, and, as before, restricted to the same characters of population. It must be admitted that the topographical conditions of the two neighborhoods are somewhat alike, both of them being situated near the points of the

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greatest declension in their respective sections; that in every other respect there are no points of similarity between them.

Of the elevated and undulating oak plateau, or

NORTHWEST SECTION,

which is probably the largest portion of the county, comparatively much may be said of its greater adaptability to health and the longevity of its inhabitants. Indeed, but for the broad river bottom lands on its western boundary, which are subjected to annual overflows, and covered with dead and decaying vegetation, and to the numerous creeks and lakes intersecting it in every direction, there is no doubt, in my mind, that the salubriousness of this region would compare favorably with any portion of the State. As it is, there are probably more octagenarians among its earliest settlers, a greater disinclination to change localities, and finer specimens of manhood amongst the children raised there, than can be found in any other section of the county. From the history of the courage and determination of the Indians, for it was here that the renowned *Tuskaloosa* had his birth, who once dwelt here to die defending their native soil; to its remarkable fertility; and to the evidences of an extinct race prior to the Indian, which is manifested in the mounds scattered over this region, the conclusion is inevitable that there is a great adaptability here to the health and happiness of the human race. The clear, purling streams, with pebbly beds; the beautiful undulation of its landscapes, with its abundance of game and fish, all show that it was intended for the perpetual abode of man; and I have a theory that, with such streams and mountain scenery, and bracing air, such a residence necessarily produces the most perfect development of physical and mental manhood, as well as the purest patriotism to be found on the earth. The histories of Greece, of Scotland, of Switzerland, and of Virginia, our own grand old mother of warriors and statesmen, amply sustain me in support of my hypothesis.

Chalybeate springs are freely interspersed over the plateau, and one amongst the number enjoyed in former days considerable reputation as a resort for invalids and pleasure seekers. I have reference to the Greene Springs, situated a few miles west of Havana, which has for many years past been occupied by Mr. Tutwiler, as a high school for boys, and selected with special reference to its reputed healthy locality.

The only serious drawback to this picture, as intimated previously, is its alluvion character, together with the many lakes, streams, and river bottom lands which afford abundant supplies of malarial emanations, and through its influence, successive crops of intermittent fevers. But, unlike the pine hills' region, these fevers are of short duration, except along the bottoms, and pass off without

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much permanent impression on the system. Typho-malarial fever, and acute inflammatory diseases are more prevalent in this than either of the other sections of the county. Like the inhabitants of the marl basin region, the people of the plateau rally rapidly from endemic diseases, and soon become ruddy with the glow of restored health. Both sections can interchange locations and live comparatively well in either, but the duration of life in the former is much the shorter, owing, no doubt, to the greater intensity of its poisonous emanations. Of course I am speaking especially of persons respectively native to either section.

According to the returns of the late

CENSUS,

the population of Hale county numbers something over *twenty-two thousand* inhabitants, of whom upwards of *fifteen thousand* are negroes and hybrids, the larger portion of the latter being confined to the southern section, where the proportion is as six negroes to one of the white race, the reverse of this condition obtaining in the northern sections.

The mortuary tables from the same *unreliable* source of information gives a grand total of one hundred and seventy-five deaths during the year ending first of July, 1870. On the next page I subjoin a tabulated statement made up from these returns, and beg leave to direct attention to it as a part of the history of the sanitary condition of the county. To the attentive observer it will be noticed that of the total number of deaths one hundred and thirty-five were attributable, in a greater or less degree, to malarial influences, and that of the remainder, all things considered, it is safe to infer the malarial poison playing an unimportant part as an under current in the ultimate results.

I am convinced by thirty-three years observations that malaria, directly and indirectly, causes nine-tenths of all the deaths which occur annually in the cotton zone, and that, but for this subtle and omnipresent agent, Alabama would be the healthiest part of the habitable globe. In such an opinion, sweeping as it is, I feel sure that a majority of the members of this association will extend to me a cordial endorsement of its veracity. And, if it is true, there is nothing improbable in the inference, that, in the fullness of time, the nature of the poison will be ascertained; and then, with the rapid strides which agriculture is making, together with the wonderful appliances of chemistry, the sources from which it arises will become obliterated, and, as a natural consequence, the great valley of the Mississippi will come to be the abode of beauty, the resort of health, and the centre of civilization. The negro, however, will, long before that time, have become an object, as it were, in the twilight of history. He is not, never was, and will never be a white man.

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TABLE OF DEATHS IN HALE COUNTY, ALA., FOR THE YEAR 1870.

WHITES—Males	17	NEGROES—Males	60	Total 175.
" —Females	12	" —Females	86	

AGES AT THE TIME OF DEATH.

Up to 10 years,	10 to 20,	20 to 30,	30 to 40,	40 to 50,	50 to 60,	60 to 70,	70 to 80,	Over 80,
70.	23.	27.	18.	19.	7.	8.	2.	1.

AS DISTRIBUTED THROUGH THE YEAR.

Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	To'l
14	25	22	18	30	5	9	8	13	16	7	8	175

NAMES OF DISEASES CAUSING DEATH.

Accidental	3	Consumption	11	Flux	1
Apoplexy	1	Childbirth	3	Hives	2
Brain, Congestion of	2	Disease of the Kidney	1	Meningitis	35
Brain fever	5	Dropsy	9	Pneumonia	28
Burns	3	Debility, general	5	Paralysis	1
Bowels, Inflammation of	1	Disease, Uterine	2	Puerperal Convulsions	2
Bowels, disease of	1	Disease, Heart	1	Pleurisy	1
Cancer of the Stomach	1	Diptheria	1	Indigestion	1
Congestion	5	Diarrhœa	1	Teething	2
Congestion of the Lungs	1	Disease, Infantile	1	Tetanus	1
Chloroform	1	Fever	13	White Swelling	1
Croup	3	Fever, Infantile	3	Yellow Disease	3
Convulsions	2	Fever, Typhoid	3	Unknown	3
Congestive fever	1	Fever, Remittent	2	Unregistered	1

AS DISTRIBUTED OVER THE COUNTY.

Greensboro Beat	15	Macon Station B't.	35	Warren Store Beat	3	Carthage Beat	9
Hollow Square B't.	18	Newberne Beat	40	Beat No. 7	19		
Harrison Beat	9	New Prospect B't.	6	Havana Beat	21	Total	175

AS DISTRIBUTED ACCORDING TO PLACE OF BIRTH.

Alabama	127	Georgia	3	South Carolina	5	Total 175
Mississippi	4	Virginia	13	Scotland	1	
North Carolina	16	Tennessee	1	Unregistered	3	

For the information contained in the foregoing tables, I am indebted to the courtesy of Mr. M. H. Yerby, Assistant Marshal of the State Census for Hale County, and whilst I have tried to render the statement as simple and accurate as possible, I decline being responsible for any part of the nomenclature as adopted in the reports.

In reference to the *geological and meteorological character of the county*, I addressed a note to that sterling gentleman and ripe scholar, Prof. N. T. Leighton, of the chemical department of the Southern University, which elicited the following letter in reply:

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GREENSBORO, January 9th, 1871.

DR. T. C. OSBORN:

Dear Sir—Your note containing certain enquiries in reference to the geology of Hale county and to the meteorology of this region, has been received. The following *brief* answers embrace such information as I have collected from observations made during the past ten years:

First—Character of the formation of the county.

The larger portion of the county, is cretaceous, being on the northern boundary of the great cretaceous or rotten limestone formation, which extends entirely across the State from east to west. It embraces in Hale county the canebrake region, the richest portion of Alabama, throughout which the rotten limestone crops out, exhibiting characteristic fossils. The surface presents, in some places, a rich black soil, containing from fifteen to twenty per cent. of organic matter; in others, a tenacious clay, and in others a loam with more or less sand.

The northern portion of the county is post tertiary, or alluvium. The river bottoms are also of recent formation. The general surface is rolling and, in some portions, hilly.

Second—Maximum, minimum and mean monthly range of the thermometer, barometer, humidity, force, course and prevalence of winds, rain guage, &c.

The maximum temperature since 1860, when I began to make observations, occurred in 1862, when it reached, in July 22d and August 14th, 98°; during the same year the minimum was 20°, and the average for the year 66°.

The following table exhibits the maximum, minimum and average temperature, also amount of rain for each month of the year 1862:

MONTHS.	MAXIMUM	MINIMUM.	AVERAGE.	RAIN IN INCHES.
January	78°	31°	53°	8.392
February	77°	26°	50½°	9.757
March	86°	26°	55½°	5.122
April	85°	43°	67°	7.161
May	88°	46½°	73¾°	1.289
June	94°	54½°	78¾°	1.736
July	98°	67°	83⅜°	.863
August	98°	65°	84°	.999
September	91°	60°	76¾°	4.144
October	89°	27½°	66¼°	.576
November	78°	20°	54¼°	.528
December	77½°	23½°	48°	3.087
TOTALS	86⅛	40 10-12	66°	43 154

During last year (1870) the maximum temperature, July 12th and 13th, was 95°; the minimum on the night of the 23d of December, was 6½°. The lowest temperature since I have been making obser-

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vations, occurred on the night of January 29th, 1868, when the thermometer reached 5½°. The fall of rain last year was 41.053 inches, while in 1868 it was 59.770 inches. The average for ten years past has been a fraction over 50 inches. The winter is generally our rainy season, though the rains are well distributed throughout the year.

My barometric observations are limited to one year, and do not show any great variations The atmosphere is usually moist, and the prevailing winds are from the south.

Very respectfully,

N. T. LUPTON.

It must be borne in mind that these meteorological observations are confined strictly to Greensboro, and cannot, therefore, be held as accurate all over the county; but as it is merely my object to give a general idea of it in this paper, the foregoing statements are sufficiently correct for present purposes.

From the preceding descriptive sketch of the topography, meteorology, and hydrography of Hale county, it will be readily inferred that the sources of malaria are unusually abundant and prolific in endemic diseases.

MALARIA.

Of the nature of this peculiar poison, I confess myself almost as ignorant, after a third of a century's interested observations, as at the beginning of my professional career.

I do not wish to be understood as being indifferent to a discussion on the subject, or that I have no preference among the hypotheses extant. On the contrary, there is no subject that has absorbed my attention so closely, and for such a length of time, as malaria has done, but that attention has been directed to one consideration alone,—*its effects upon the human system.*

In regard to the theories concerning its nature, which have become so multiplied in the profession, I have lately leaned most favorably to the last, that of Prof. Saulsbury, and have made this memorandum, or saving clause, at the heading of my articles of faith,—"*Important if true.*"

It is my conviction that *malaria enters into and circulates with the blood as a predisposing cause, requiring an exciting cause to develop its peculiar diseases, not directly affecting the current which conveys it to every part of the system, and becomes noxious only by its influence in paralysing the peripheral extremities of the organic system of nerves.*

Physiologists are now agreed that these nerves have a definite object in wraping themselves around the trunks of the principal arte-

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ries, and that that object is subserved in being in this way conducted to their ultimate destination in the capillary system, and especially those in the vital organs, where each arteriale is endowed with its twig as the controlling agent in the healthful performance of the functions over which they respectively preside. It is also conceded that whilst these twigs continue in a normal state, there can be but one status in the capillaries themselves, and that is unconditional health in the performance of their proper functions. There it but little room for doubt, moreover, that as *the blood* comes every where into immediate contact with these attenuated filaments, it *receives its vitality* directly through them from the ganglionic system of nerves. If these predicates be accepted, and I am at a loss to see how they can safely be denied, the inference is imperative that whenever these peripheral nerves are above or below par, the extreme capillaries will be the first link in the chain of subsequent disorder, and the next will be in the condition of the blood itself. Let us now apply these tenets to malarial infection. Whatever may be the nature of the poisonous agent, of one thing I am entirely satisfied, *its toxical impression on the nervous system is that of a sedative or stupefying character.* In this climate it is never totally absent from the atmosphere at any time, has more or less intensity according to locality, prevails mostly during the summer and autumn seasons, and acquires its greatest virulence during epidemic visitations. Under favorable circumstances it may and often does remain stationary in the system for many months, or perhaps years, without causing an explosion of fever, or without even creating decided indisposition on the part of its victims, who frequently assert themselves to be in first-rate health. I am acquainted with several persons, of different ages and opposite sexes, upon whose tongues—that delicate malariometer—the characteristic margin has been steadily persistent for twelve years, with slight shades of variation, and during which period they were enjoying, as a general thing, apparently the best of health. It is true, they have occasional headaches, vertigo, neuralgia, erysipelas, or perhaps a mild form of arthritic troubles, but there has not occurred during that time a single exascerbation of either bilious, or intermittent fevers. They are, however, being gradually undermined by the poison, and sooner or later will have to succumb to its deadly influence. But there are exceptions to the rule, and are valuable in this connection only as substantiating the theory I am advocating, that the poison is merely a predisposing cause of disease, and the evidence they furnish of its non-irritating or non-stimulating impression upon the sympathetic nerves.

It is my own, as well as the general, belief, as far as I have been able to learn, that malaria enters into and circulates with the blood; and it seems to me impossible it could do so for such a great length of time without seriously deranging or destroying the vital

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or chemical constituents of the current with which it is so intimately blended, if its toxical nature was directed especially to that department alone. But, instead of this special determination, there is to be found a ponderous mass of testimony extant, in which the blood has been carefully examined, *even after explosions of fever had taken place*, wherein there was no evidence of disruption or disintegration of its normal ingredients. On the contrary, it is not until the spleen or some one or more of the other organs becomes embarrassed, that a deviation from the normal standard is to be seen, and then only as indicated by an excess of its white corpuscles.

The only plausible view of the subject, then, is that after the poison has entered the circulation, its effects are spent upon the delicate nervous filaments which accompany and control the functions of the capillary system. That function consists first, in the motific power of these minute vessels in forcing along the current of the blood independent of the propulsion of the heart; and 2d, their prehensile capacity in selecting only such of the separate ingredients of the blood as are nutritious and essential, recrementitious or useful, or excrementitious and no longer necessary to the living organism; to be re-combined in the veinous radicals, or to be cast off through the great emunctory outlets established for their special depuration.

Since it has been shown by careful examination made upon the blood that malaria does not act specifically upon this liquid; and since it has also been shown that its effects are not stimulating upon the vaso motor nerves; the most rational conclusion we can arrive at, is that its toxical nature is spent upon these nerves exclusively as a sedative, stupefying, or paralyzing agent; and it is only necessary now to show whether this view of it will explain the phenomena which constantly follow its effect upon the system.

Claude Bernard has ascertained, by numerous experiments, that as compared with the cerebro-spinal system, the action of the great sympathetic is remarkably slow, and is performed in a totally different manner; and that a section of one of its branches is invariably followed by a temporary dilatation of the capillaries of the parts to which it is directed, a consequent increase and stagnation of the blood, and an elevation of the temperature or fever, all of which decline again as soon as the division is connected by a current of electricity.

Now, the ordinary phenomena of morbid associations in malarial diseases consist in a derangement of the function of innervation, which is nothing more nor less than a state of paresis of the peripheral nerves, and which is sooner or later followed by relaxation and dilatation of the capillaries, an increased quantity and stagnant condition of the blood, and fever, or elevated temperature of the body; and, owing to the arrest of the blood in its course to the lungs for a supply of oxygen, an excess of carbonic acid is immedi-

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ately formed, which, if the malarial intoxication is sufficiently intense, produces acute congestions of the vital organs, when life becomes endangered in the form of pernicious intermittent fever. If, however, the ganglia are not completely overwhelmed by the charge of the poison, a decided reäction slowly occurs, and in that way a more or less perfect intermission is at length established. This is precisely equivalent to Bernard's connection of the divided ends of the nerve by the electric current. And it is in this manner that, with the poison still in the blood, the system is subjected to a series of innervations and enervations—of shocks and reäctions—of excitements and rests—of paroxysms, exascerbations and intermissions, that the source of ganglionic irritability becomes exhausted, and the destructive process of toxæmia begins. As long as the ganglia and their plexuses retain a normal integrity, but little if any disorder can occur in the healthy status of the blood, for it is to this power that its vitality is intrinsically due.

When the sub-paralytic condition of the peripheral nerves is once established from any cause whatever, whether coarse, structural changes in the ganglions, or the toxical influence of malaria, the first impression is made upon the nutrition of the parts affected. If the paresis is slight but continuous, prolonged capillary dilatation will occur, and abnormal nutrition will follow in direct proportion to the injury sustained by innervation, as is manifested in hypertrophy of the heart, enlargements of the spleen, functional derangements of the liver, and disorder of the kidneys; all of which are susceptible of immediate improvement when addressed by appropriate medication. But when the palsy in the vaso motor nerves is more profound or unusually intense, by the quantity or quality of the poison, the capillary function is overwhelmed by mixed currents of blood which are foreign to themselves and dangerous to the organism at large.

All these blood troubles, then, which we generically name cachæmia—*kakos* bad, and *aima* blood—are exclusively due to and dependent upon disordered circulation in the capillary system. In this condition the ganglia are inadequate to perform the battery duty of faradising their extremities, without the assistance of some medicinal agent capable of increasing its shocks in an extraordinary manner; and, fortunately for suffering humanity, we possess such an agent in Quinia, which pursues the poison through the intricate labyrinths of the capillaries, and eradicates the foot-prints of the destroyer by restoring the vital energy of the vaso motor nerve system.

In offering my views of the modus medendi of cinchona and its various salts, I submit the following proposition: As strychnia is to the cerebro-spinal, so is quinia to the organic nervous system. The effects of both agents are spent primarily as stimulants upon the system of nerves for which they have respective affinities. To ac-

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complish this end, it is, in my opinion, essentially necessary that they should enter into and circulate with the blood.

I am aware that my learned friend, Dr. A. G. Mabry, differs from me in this opinion, in an essay read before this association at its last meeting; and whilst I must do him the justice to say that his effort is very creditable to that volume of the transactions—indeed it is one of the best and most carefully prepared papers upon the record—it is, nevertheless, impossible to persuade myself of the correctness of his views in relation to the absorption of quinia into the blood. I agree cordially with him in all the other particulars of that excellent paper, and especially that in which he denies an antiseptic or antizymotic influence of the medicine upon the blood itself. The reasons which actuate my belief in the absorption of quinine are as follows: First.—In animals which have perished under the influence of quinia, almost invariably the pia mater has been found more or less injected, and, in a few instances, traces of meningitis have been noticed. Second.—Several experimenters, Bretton-neau amongst them, have detected quinia in the blood itself. 3d. Its presence may be easily recognized in the urine, a short time after its administration, by a simple chemical test. Briquet employs for this purpose a solution containing two parts of iodine, eight of iodide of potassium, and two hundred and fifty of water; with which, after the exhibition of eight grains of quinine in one dose, a precipitate sometimes forms in half an hour, though more frequently at the end of two hours; after four grains in two or three hours; after two and-a-half grains, if any appeared, it was not until the expiration of five or six hours. This solution throws down an orange brown precipitate from a solution of any one of the salts of quinia. In ordinary urine no such effect is produced, but during the use of sulphate of quinine, the application of the reagent is followed by a precipitate as soon as the system becomes affected, and as long as it continues to be so. Fourth.—Quinia in solution shows in the spectroscope a distinct blue fluorescence, and Bence Jones succeeded in detecting it by this test in numerous experiments in the tissues of animals to which the medicine had been administered for the purpose. He found it in the liver, the coats and lenses of the eye, the kidney, the urine, the bile, the blood, the brain, the nerves, the muscles, the cartilages, the spleen, and in the lungs. He says: "When sulphate of quinine is taken, it rapidly passes from the blood into the textures." And again, "in six hours the amount of fluorescence was rather less than in three hours. In twenty four hours it was considerably less than half as much as in three hours. In forty-eight hours, except in the liver and blood, there was but little more fluorescent substance in the textures than naturally exists there. Hence, in fifteen minutes the quinine had passed everywhere." And as pertinent to these experiments, Dr. Chalvet has proved that whilst there is a constant presence of this fluorescence in the blood

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and tissues of the body during health, it is always absent in persons afflicted with malarial complaints.

When I read these experiments of Bence Jones in 1866, I frankly confess that it greatly elated my self-respect, since it proved by scientific observation what I had been teaching for thirty years from theory alone, that the effects of quinine lasted only forty-eight hours from the time of its administration. Fifth, and lastly; experiments are now being performed in France, by a commission from the Academy of Medicine, in which it has been proved that malarial enlargements of the spleen (all enlargements of the spleen are malarial) are productive of an excess of white corpuscles, and that the administration of quinine restores the normal standard of the blood again; ergo, malaria poisons the blood, and quinine is its antidote. To this doctrine I cannot concur, and have merely introduced it in this connection for the purpose of corroborating the testimony of the preceding witnesses as far as the absorption of quinine into the blood is concerned.

These are the reasons which actuated me in calling attention to the error inculcated by the teaching of Dr. Mabry, and I hope the association, as well as my esteemed friend, will pardon the digression which I felt it incumbent to make in refutation of a theory that has not the slightest foundation to base its defence upon. It is not enough to say that quinine acts upon the nerve-centres just as hydrocyanic acid and strychnine are supposed to do, for we have no assurance whatever that these medicines reach their destination and perform their effects otherwise than through the circulation of the blood. In fact, it is now being conceded that *they do* enter into the blood. I well remember inhaling from a vial of officinal hydrocyanic acid enough to fell me to the floor, and upon recovering found the taste of the medicine vividly impressed upon my tongue, whilst the gauzy, floating sensation in my brain was almost identical with that produced by chloroform, only its effects were much more evanescent in their character.

Epidemics.

As may be reasonably supposed from the peculiar topography of Hale county, there is rarely a year of total exemption from epidemic visitations. During the year 1870, although one of the healthiest we have had since the late war, there were two of these visitations, besides a number of contagious and infectious diseases. In a preceding part of this report I embrace the occasion to mention the prevalence of cerebro-spinal fever, in two neighborhoods twenty miles distant from each other, and that the disease seemed to observe especial identity in the time of its invasion, its intensity, and its final disappearance, whilst its death-rate was sixty-eight out of the seventy-five cases involved. The duration of the disease

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was exceedingly variable, some of the cases terminating fatally within an hour from the time of invasion, whilst others lingered through many days of suffering, and yet others after several weeks of partial paralysis and mental hebetude. I have been able to glean but little information respecting the treatment by the neighborhood physicians who had charge of the cases, and of but one instance in which venesection was adopted as a part of the therapeusis; the result of this case seeming to warrant the free abstraction of blood in the early stages of the malady. In my own practice there occurred but one case of the disease, and in it I begun the treatment by an active emetic, followed by a full mercurial cathartic, and subsequently, the administration of thirty grains of quinine, in ten grain doses, and, in the meantime, I applied alternate stips of blankets soaked in boiling water to the spine repeatedly, until the cervical muscles were relaxed, and the pain and cerebral stupor were relieved. This case occurred in a very old negress, in whom there was but little to expect from medication, but to my surprise she was restored to health in the course of ten days from the time of the invasion. The most remarkable feature in the case was the manifest absence of sensibility in the skin, upon which the repeated application of scalding water was unattended by vesication, and but little flinching on the part of the patient from the pain which such a powerful agent ordinarily produces. This, however, is probably an isolated case of the disease, and from it I have not attempted to draw any inferences relative to the treatment of other cases of a similar character.

During the summer months epidemic conjunctivitis prevailed extensively through the county, many of the cases falling under my own observation, and but few of them proving the least refractory under the adoption of *any* mode of treatment. I am almost a confirmed routinist in my management of this painful affliction, and rarely ever vary from a prescribed formula in its simple medication. Absolute rest in a darkened room, diet of skimmed milk, cold applications constantly to the eyes, cold streams of water repeatedly upon the head, cups to the temples, scarifications to the inner side of the lids, blisters behind the ears, collyriums of nitrate of silver, solution of epsom salts, tartar emetic and laudanum, taken in sufficient quantities to nauseate the stomach slightly, and keep the bowels in a soluble condition; and, if necessary for the reduction of the pulse and pain, blood-letting as much as may be required.

Under this mode of treatment my patients are speedily relieved from all local distress, and the eyes are again restored to usefulness.

Measles.

were introduced into Greensboro and vicinity in the early part of June, and spread slowly among the younger members of several

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families; but it proved to be a mild form of the infection, there being no deaths from its invasion so far as I have been able to learn. As has always been my custom with each of my children, I sent my two youngest daughters into contact with several patients at different stages of the disease, hoping to get them infected, so that in anticipation of its attack, I would have ample opportunity to prepare their systems for the onset, and in this way conduct the disease to a favorable termination, but was disappointed in my expectations. On this point I am quite certain that medical men fail to practice the precepts which they preach to outsiders, and especially in reference to the fact that the disease is always dangerous to pregnant women, whilst as children, very little danger is to be apprehended from the malady. There is one other point in this connection upon which I am desirous to express my earnest convictions. After thirty years observations in the treatment of measles, I am fully satisfied that with free ventilation, and the liberal use of cold water, there is less hazard to life from the disease, whilst the danger of its sequelæ is greatly diminished.

During and since the late war many forms of Eruptive Diseases have prevailed in this county, amongst the number of which I will make a passing notice of herpes, erysipelas, eczema, prurigo, scabies, lichen, impetigo and psoriasis; but none have proved so refractory to treatment as chronic eczema, which in several instances, stubbornly resisted every mode of management and finally after several months duration, disappeared without the assistance of medication.

Venereal Diseases and disorders have ever been a lucrative source of revenue to physicians in this county, but it is mainly confined to the negro population, who seem to be peculiarly susceptible to its invasions, owing no doubt, to their extremely lecherous habits and disgusting want of appropriate cleanliness.

Hemorrhagic Malarial Fever, which was so fatally prevalent during the late malarial epidemic, has nearly disappeared from this community, owing unquestionably to the entire recuperation of the nervous energies; and it is only among swampers, or individuals of dissipated habits that it has been heard from for the past twelve months.

I will embrace this occasion to notice a question which was discussed at the last meeting of this association in reference to the liability of the negro race to enlargements of the spleen, and to add my testimony to the fact that *they are certainly liable*, but much less so than the white race.

Since the late epidemics of malarial diseases, the various forms of dropsy and neuralgias, have been as is usual under such circumstances, exceedingly abundant and distressing in their attacks; but with our enlarged views of the pathology of these diseases, the treatment of them is much more satisfactory than in past times.

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On the subject of chloral hydrate, I am delighted in being able to state that, after much familiarity and freedom in the use of it as a medicine, in my hands it has in nearly every instance, proved to be the safest and most admirable hypnotic of which our materia medica is possessed. In the only two instances in which it seemed to disagree there was merely a temporary nausea established, and in each of these cases there was but little to hope for by any mode of medication.

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REPORTS

FROM THE COUNTY OF MOBILE.

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ENDEMIC AND EPIDEMIC DISEASES OF MOBILE.

CONSIDERED WITH SPECIAL REFERENCE TO THEIR ÆTIOLOGY AND PROPHYLAXIS.

By Jerome Cochran, M. D., of Mobile.

Preliminary Note.

I have always taken a great deal of interest in questions relating to the causation and prevention of diseases ever since I began the study of medicine, some fifteen years ago. Under the influence of this feeling I have, from time to time, published various papers relating to public hygiene. In the year 1866, I read a paper before the Mobile Medical Society on the origin of the malarial poison. In June, 1869, I published a letter on the malarial influences at work in the suburbs of Mobile. During the months of December and January last, I published in the Mobile Register, a series of communications on the public health, in which I discussed at some length the natural history of yellow fever, and the various sanitary measures necessary to improve the health of the city. Shortly afterwards I gave to the public, through the same medium, a few brief notes on the influence of underground drainage in the diminution of the death rate, from pulmonary diseases. In the essay which I have now the honor to offer for the consideration of the Medical Association of the State, I have gathered the substance of all these papers together into a consecutive argument, the whole having been carefully revised, considerably enlarged, and much new matter added. If the doctrines which I advocate as to the production and prevention of diseases are true, it is hardly possible to estimate at too high a rate their importance to the medical profession and to the people of the State; and it has therefore seemed to me to be eminently proper that they should be brought before the State Association for discussion. If they receive the endorsement of the association, they become invested with so much authority that they become at once the basis of all future sanitary legislation in the State of Alabama, and I shall be able, and I hope without unmanly vanity, to feel that I have some little claim to the gratitude of my fellow men.

Written at Mobile, March, 1871.

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The Sanitary Condition of Mobile.

There are very few questions of greater and more immediate importance to men and women in this world, than those relating to health and disease. The health of the citizen is very precious, both to himself and to the community in which he lives. It means ability to labor, and hence it means also the comfortable support of happy families, and the prosperous growth and development of cities and of States. It makes all the difference between living under our own vine and fig tree with none to molest us or to make us afraid, and of dragging out miserable existences in the hospitals or pauper asylums. Hence the care of the sick and the removal of the causes of disease are placed, both by christian philanthropy, and by modern unchristian political economy, among the recognized duties of all civilized communities.

These are common-place truisms which everybody, in a general way, is willing to admit; but only those can give it adequate appreciation who have witnessed the ravages of some desolating pestilence in the crowded population of a great city—such a visitation for example as the city of Mobile has recently suffered from yellow fever.

It is because I desire to take advantage of the opportunity which may be presumed to exist, while the dreadful lessons of the late epidemic are fresh in the minds of all our citizens, professional as well as unprofessional, that I select the present time to make some suggestions as to the preservation of the public health which have been in my mind for several years, but which have not been presented to the public before, because I had no reason to believe that they would receive the attention which their importance demands.

I come to this discussion, too, with all the more confidence because within the last ten or fifteen years the great questions of public hygiene have not only been laborously investigated by distinguished physicians, but have provoked the attention of many intelligent men not members of the medical profession, and become subjects of legislation for some of the most civilized governments in the world. As entirely pertinent to the occasion I quote here a striking passage from the distinguished scientist, Mr. Thomas Huxley:

"We have learned that pestilences will only take up their abode among those who have prepared unswept and ungarnished residences for them. Their cities must have narrow unwatered streets, foul with accumulated garbage. Their houses must be ill-drained, ill-lighted, ill-ventilated. Their subjects must be ill-washed, ill-fed, ill-clothed. The London of 1665 was such a city. The cities of the East, where plague has an enduring dwelling, are such cities. We in later times have learned somewhat of nature, and partly to obey her. Because of this partial improvement of our natural knowledge, and of that fractional obedience we have no plague; because

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that knowledge is still very imperfect, and that obedience yet incomplete, typhus is our companion, and cholera our visitor. But it is not presumptuous to express the belief that when our knowledge is more complete and our obedience the expression of our knowledge, London will count her centuries of freedom from typhus and cholera, as she now gratefully reckons her two hundred years of ignorance of that plague, which swooped upon her thrice in the first half of the seventeenth century."

But I proceed to my more immediate subject. Mobile is not really an unhealthy city. The annual percentage of deaths to the whole population is about twice as great in New York, for example, as in Mobile. Leave out our yellow fever years, and Mobile is the healthiest city in the United States, and even including our yellow fever years in the general average, Mobile is still the healthiest city in the Union except one, namely: Baltimore. Nevertheless it is but small comfort to know that our neighbors suffer even more than ourselves, and I am quite sure that if the people of the city knew of any means by which the annual tribute of human suffering and of human lives, which is levied upon us by the endemic and epidemic maladies prevalent among us, could be replaced by an equivalent tribute of money or money's worth it would be cheerfully paid. Now I believe that this can be done, and proceed to consider the ways and means of doing it with reference, 1st.—To our great endemic, namely: malarial disease in all its forms and varieties; and, 2d.—To our great epidemic, namely, yellow fever, the most dreaded of all the diseases of the gulf coast; and then more briefly, 3d.—To pulmonary phthisis in its varying manifestations, which carry off perhaps a larger number of our fellow-citizens than any other single cause.

The Natural History of Malaria and of Malarial Diseases.

The influence from which the health of Mobile suffers most is undoubtedly the endemic poison which is commonly known as malaria or marsh miasm. The experience of our people, and still more emphatically the skilled observation of our physicians will bear me out in the statement, that more than half of all the sickness which occur in Mobile is of malarial origin. To this source we trace our intermittent, remittent and conjestive fevers; our neuralgias; our dysenteries and our bilious colics; together with many other visceral and cachectic troubles. This ought not to be so. I say *ought not* because of all the diseases that flesh is heir to, those produced by malaria are easiest of prevention by the removal of the efficient cause.

It is true that we do not know what malaria is save by observation of its effects in unfortunate human bodies of which it takes

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possession. It cannot be weighed or measured. It evades the most jealous scrutiny of the microscope. The most sensitive chemical tests are not adequate to its demonstration. But that it is a real thing, powerful for evil, the prolific cause of many diverse maladies, in the light of abundant and painful experience, we know only too well. We know also the circumstances under which this poison is generated, the laws which regulate its transportation, the barriers which obstruct its pestilential progress, and what is of still more importance, we know the certain means of accomplishing its destruction.

To show that these broad assertions have abundant scientific warrant I proceed to a consideration of the circumstances under which this poison is generated, and of the principal theories which have been proposed for its explanation.

What theories of malaria received the sanction of Hypocrates and Galen, and the rest of the ancient fathers of medicine, and what theories of malaria were prevalent during the first millennium and a half of the christian era, while the Saints of the early centuries were laying broad and deep the foundations of the church, and the sublimities and subtleties of scholastic philosophy were flourishing under the sun of the middle ages, I have never anywhere seen any account of. The theory of its origin in the humid decay of vegetable matter, in the decay of vegetation under the conjoint influence of moisture and solar heat, which has been so generally received, was I believe first developed into a systematic doctrine by Lancisi, in his book *De Noxiis Paludum Effluviis, Eorumque Remediis, etc.*, published at Rome in the year 1716. His observations seem to have been confined to the pontine marshes of notorious insalubrity; and the conclusion at which he arrives is the logical summary of the facts that came under his notice. Indeed, so plausible is this explanation, and so many are the instances that lend it confirmation, that it is still the theory most commonly received by medical authorities. For a hundred years no man called it in question, and no facts were published necessitating its revision. The favorite haunts of the poison in both continents, the Alantajo Land on the Tagus, the Maremna on the Mediteranean, the Jungles and Deltas of the coast of Africa, the rice swamps of the Carolinas, and the alluvial formations on the Mississippi and its tributaries, presented everywhere the same phenomena of profuse vegetation, abundance of water, and intense solar heat, that met Lancisi in his study of the pontine marshes, and were regarded as so many authentic testimonies of the truth of his doctrine. When at last facts in conflict with it were observed and published it was so firmly established as an orthodox article of the popular medical creed, that the doctors ignored the refractory facts, and clung with quiet conservative tenacity to the theory they had been accustomed to teach.

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But facts are truly stubborn things; and although they may be overlooked for a while, they commonly manage in the course of human events to get themselves more or less adequately recognized; so that now in the new light which they have shed upon the subject, the leaders of medical opinion are beginning to acknowledge the necessity of some revision of Lancisi's theory. Thus Williams, in his Principles of Medicine, speaking of the generation of malaria says, "All that seems to be really requisite is the continued operation of the sun's heat on moisture, stagnant upon or near the surface of the ground." And Watson also asserts that to this end nothing more is necessary than the four elements of the ancients, earth, air, fire, and water. These are steps in the right direction, and indicate some imperfect glimmering perception of the truth; but the honor of excogitating a new theory of malaria, adequate to the explanation of all the facts accumulated by centuries of observation, and adequate also to meet the most rigorous requirements of inductive science, belongs to my illustrious friend and teacher, Prof. W. K. Bowling, of the University of Nashville. His doctrine is that the malarial poison is generated by the exposure of water under conditions that prevent its rapid evaporation, to the long continued influence of solar heat, and that it is never generated in any other way. In most localities where there is abundance of water and of solar heat, there is also as a natural consequence abundant vegetation, and abundant vegetable decomposition. The fact of vegetable decomposition, and the fact of the generation of the malarial poison occurring thus very commonly together, that they stand to each other in the relation of cause and effect, has always been a matter of easy inference. But there are two classes of localities which, when taken together, furnish conclusive proof that the generation of malaria is entirely independent of vegetation and its decay, namely: first, those localities in which there is abundance of water, and of solar heat, and of decaying vegetation, but no malaria and no malarial diseases; and secondly, those localities in which we find water enough and solar heat enough, but not a trace of vegetation or of vegetable decomposition, but in which, nevertheless, the malarial poison proclaims its malignant presence in desolating pestilences of malarial maladies.

If I were writing a treatise it would be incumbent on me to give, under these two heads, as many illustrative examples as I could find well authenticated histories of; but as I am only endeavoring to state a theory clearly, so that it may be accurately understood, a few of the more familiar accounts given by medical writers of these two classes of localities are amply sufficient for my purpose.

Examples of the First Class.

There is a region of country below New Orleans—an immense region on both sides of the Mississippi river—in which Nature has ac-

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cumulated all the conditions commonly believed to be necessary for the production of malaria; a country of swamps and lagoons, with a climate of almost tropical fervor, and of an altogether tropical luxuriance of vegetation, and of vegetation too in every possible stage of growth and of decay. In this region, which would seem to be planned for a very paradise of intermittents and remittents, with all their complications and consequences, no such thing as malarial fever in any shape is known. This immunity is esteemed so remarkable under the circumstances that sundry hypotheses have been offered in explanation of it. One theory is that since the necessary conditions are all present, the malaria must of necessity be generated; but that it never becomes active in epidemics, for the reason that it is immediately absorbed, or neutralized in some other way, by some occult influence of a species of water lilly, the Jussieua Grandiflora, which grows here in great profusion.

A precisely similar example, and on a still grander scale, is found in the delta of the Amazon. We have here the sun of the tropics in all its torrid splendor; and the vegetation of the tropics, through all the genera and species of earth's richest flora, in such magnificence and profusion as to defy all tongues to image or to name them. Here also we have such a world of waters as this planet cannot show anywhere else outside of the great seas of the third day of the first chapter of Genesis; water enough to win the great African desert from the sterility which has brooded over it for centuries which no man can number, and to make it to rejoice and blossom like the rose, filling its wildernesses and its solitary places with the gladness of green fields and the busy hum of populous cities. Here, as a matter of course, we have vegetable decomposition on a scale that baffles all the commonplaces of description. And yet this region, by the hand of Nature marked, quoted, and signed, on the theory of vegetable decomposition, as the favorite haunt of malaria, is said to enjoy almost complete exemption from malarial diseases.

Another striking instance of a country in which every circumstance of climate and soil, thermometric, hygrometric, and vegetal, seem to unite for the production of malaria on a grand scale, is mentioned by Dr. Hooker in his Himalayan Journals. "The Delta of the Soormah extends for a distance of eighty miles along the old bed of the Burrampooter, a river five miles broad, and forms an immense, still, and narrow sheet of deep, clear water, called the Jheels. The area drained by the Soormah is scarcely raised above the level of the sea, and contains about ten thousand square miles. In the dry season the Jheels are marshy, but during the rains, which are excessive on the neighboring mountains, they are entirely overflowed, the water rising to a few inches of the huts which are built along the borders of the rivers which traverse it. The soil, sandy along the Burrampooter, is more muddy and clayey in the centre of the Jheels, with immense accumulations of vegetable matter in the

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marshes, consisting chiefly of decomposed grass, roots, and leaves." "The climate of Chaltuc," adds the Doctor, speaking of one of the villages, "is exceedingly damp and hot throughout the year, but though sunk amid interminable swamps, the place is perfectly healthy. Such, indeed, is the character of the climate throughout the Jheels, where fever and ague are rare; and though no situations can appear more malarious than Silpat and Cachar, they are in fact eminently salubrious."

Examples of the Second Class.

It is related on the authority of Sir Gilbert Blane, Medical Director of the British army in Spain, during the wars of Napoleon, about the beginning of the present century, that the army on one occasion encamped on the plains of Estramadura, a wide, sandy desert, upon which the sun shone fiercely, and without even a vestige of vegetation of any kind. The most remarkable peculiarity of this Spanish Sahara was the fact that on the surface no water was to be seen, neither lake nor pool, nor running stream; but everywhere, at a few inches below the surface, there was water in abundance, so that the thirsty soldiers had only to scratch a hole in the sand to obtain a bountiful supply for all their wants. Here no vegetable decomposition was possible. There was absolutely no vegetation to decay, not even a blade of dry grass, nor a solitary stunted shrub. No fear of intermittents and remittents here, was the thought of the medical officers as the soldiers stretched their tents. And yet, in two or three brief days, the malaria proclaimed its malignant presence in the production of an epidemic of bilious fever and dysentery of such dreadful virulence that the rumor went back to England that the army was destroyed.

Dr. Ferguson informs us that "in the most unhealthy parts of Spain we may in vain, towards the close of Summer, look for lochs, marshes, ditches, pools, or even vegetation. Spain, generally speaking, though as prolific of endemic fever as Walcheren, beyond all doubt is one of the dryest countries of Europe; and it is not until it has again been made one of the wettest by the periodical rains, with its vegetation and aquatic weeds restored, that it can be called healthy, or habitable with any degree of safety." And again he says, "In the year 1819 several regiments of the British army in Spain took up an encampment in a hilly ravine which had lately become a watercourse; pools of water remained here and there among the rocks so pure that the soldiers were anxious to bivouac among them for the sake of using the water Several of them were seized with violent remittent fever before they could remove from the bivouac next morning. Till then it had always been held among us that vegetable decomposition was essential to the production of pestiferous miasmata. But in the instance before us, where the

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soil would never lie for the torrents, and where, consequently, the very existence of vegetation was impossible, the half dried ravine proved as pestiferous as as the bed of a fen." In August, 1794, after a very hot and dry summer, the British army in Holland encamped at Rosendaal and Oosterhout. The soil in both places was a level plain of sand, with a perfectly dry surface, where no vegetation existed or could exist, except a few stunted heath plants. It was universally percolated to within a few inches of the surface with water, which, so far from being putrid, was perfectly potable. Here fevers of the remittent and intermittent type appeared among the troops in great abundance.

The soil of Walcheren is precisely similar. Sir Gilbert Blane describes it as consisting of a fine white sand, known in the eastern counties of England by the name of silt, and about a third part clay. "It was after a dry and hot summer also, that the British army suffered in that island from the endemic fever to a degree almost unprecedented in the annals of warfare."

There is no explanation of facts like these in accordance with Lancisi's theory of the generation of malaria by the humid decomposition of vegetable matter. On the one hand we have vegetable decomposition without malaria; and on the other hand we have malaria without vegetable decomposition—both positive and negative proof of its insufficiency. Professor Bowling's theory cuts the Gordian knot in both cases. In the country below New Orleans, the water is free to obey every impulse of evaporation, and no malaria is evolved. In the Spanish plains the water confined just below the surface, the imprisoned water, exposed to the hot breath of the sun under circumstances that impede its evaporation, becomes the prolific fountain of malarial diseases. Professor Bowling's theory has, indeed, been weighed in balances, and has not been found wanting. It has never been confronted with instances it did not comprehend and explain. As I desire to ventilate it a little more fully, I shall, perhaps, be excused for introducing here a few pages of illustration from the pen of its illustrious author. The passages I am about to quote occur in a letter written by him to Dr. Watkins of Georgia, in the year 1869. They are in the characteristic forcible off-hand style of the man, and are full of suggestion. He says: "With this theory we can account for malaria in the dried-up beds of creeks and rivers. For there is water just beneath. For malaria in every place described by the British surgeons. In all the arid plains they mention that water was just beneath the surface. For the insalubrity of extensive 'deadenings.' The watery fluid being *in* the deadened timber. For the no less conspicuous insalubrity of regions recently desolated by sweeping hurricanes. The over-thrown timber retains its watery fluid. For the loss of health of new settlers in new countries. The cutting down and leaving of large quantities of timber on the

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ground; and the building of their residences of green logs. For cultivation destroying the poison. Cultivation to be successful must be preceded by proper drainage. For the exemption of certain pine tracts. Such tracts universally have a sandy or gravelly sub-soil, and the water subsides. For other pine tracts *not* being exempt. These are invariably found to have a clay sub-soil. 'I know,' says Williams, 'instances in which ague has attacked persons living on a height of mountain limestone, forming a small table land below higher ground.' I have collected a great number of similar facts. This theory accounts for it. New mill-ponds are notoriously pestiferous. New mill-ponds kill great quantities of timber, which, full of watery fluid, no longer circulating in its vessels, is in the proper relation to solar heat. Old mill-ponds are notoriously healthy; the timber originally killed having disappeared. For the increased salubrity of the capital of Kentucky, after a dam was thrown across the Kentucky river a mile below the city, to secure slack-water navigation. The back water found no timber to kill, and the water-line opposite the city was nealy stationary. The river could no longer in summer shrink to a thread, and leave its exposed bottom, *with water just below*, to be operated upon by intense solar heat. For the increase of sickness upon other portions of the Kentucky river, and Barren and Green rivers of Kentucky, also locked and dammed. Large districts of wooded country were flooded by the dams and the timber killed, holding watery fluid in the proper relation to the rays of the sun. For the exemption of the great African desert, similar in its external aspect to the plains of Estramadura, and the Alentejo land upon the Tagus. In the former there is no water just beneath the surface; in the latter there is. For the exemption of the great western desert between the western boundary of Missouri and the Rocky Mountains. No water beneath the surface; the winds that supplied themselves with water, probably in the gulf of Mexico, having deposited it all before reaching the plains, are unable to accommodate them even with dew. For the exemption of cities. Cities are thoroughly drained, and moreover much of their area is covered with houses and pavements. For the exemption of the buffalo hunters in the pioneer exploration of the western wilds of Kentucky and Tennessee; exposed, as they were, to every conceivable vicissitude of weather, every intolerable privation; and in the case of Daniel Boone, being without 'a dog, salt, or sugar.' They did not disturb the forests through which they roamed. The umbrageous trees, by active evaporation from their exuberant foliage, reduced the solar heat; and springing from the water's edge of every creek and river, threw their protecting shade over their denuded and exposed beds, even in midsummer. For the terrific sickness of the horde of land-hunters and settlers that succeeded. These felled the forests, dammed the creeks, built green log houses, and deprived the margins of the rivers of their sylvan

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protection. For a return of inland regions to pristine salubrity. The extinction of timber, save living forest belts, and the drainage of cultivation. For the persisting insalubrity of the margins of creeks and rivers. The unobstructed rays of the sun upon their exposed *dry and gravelly beds* with water just beneath the surface. For the 'infamous celebrity' of rice grounds. Here art has exhausted its ingenuity in securing the proposed relation of heat and water. In short this theory will apply to all the facts of the case, and, therefore, must be true. All other theories fail, and, therefore, must be false."

It may seem to many that I have extended this inquiry into the laws, regulating the production of malaria, to an unnecessary length. But a moments reflection will make it evident that without accurate knwledge of the circumstances and conditions under which the malarial poison is generated, no efficient steps can be taken for the prevention of malarial diseases. If for example, under the influence of the prevalent theory of the dependence of malaria on humid vegetable decomposition, we were to go to work and remove all vegetation from any of our malarial districts, our hopes of sanitary improvement would most certainly be doomed to woeful disappointment. Our labor would be in vain and fevers more rife than before. In a word we would be guilty of a great folly from which a careful study of Walcheren, Rosendaal, Oosterhout, and the sandy plains of the Spanish peninsula, might have saved us. When on the other hand we base our measures of prevention on definite and certain knowledge, the result can be foretold with perfect confidencce.

What we certainly know of malaria is this, that it is the child of the water and the sun; that when water is confined near the surface of the earth, or in any other way which prevents its rapid evaporation, and in this condition is exposed to the heat of the sun, the malarial poison makes its appearance. Nevertheless it is to be borne in mind that the influence of the sun on oceans, seas, lakes, rivers, ponds, or other bodies of water open to the air, so that free evaporation is possible, does not produce malaria. It is only when the water is confined, imprisoned, held in bondage, and forced unwillingly to submit to the embraces of the arch-chemic sun, that it gives birth to any such malignant offspring. The poison being once born into the world, with a local habitation and a name, its habits are well known. It it a groveling poison, and lies close to the ground. It can be transported from place to place by the wind, ordinarily only to the distance of a few miles, one, or two, or three; but sometimes in furious storms it has been carried thirty or forty miles, scattering the seeds of disease in healthy neighborhoods. It cannot pass any considerable body of water, being destroyed by the very mother which bore it We have also reason to believe that the sunshine in the open air is fatal to it—the god of Day thus assuming the func-

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tions of Saturn and devouring his own malignant offspring. A belt of green trees opposes a very effectual barrier to its progress, and it would be quite possible to fence it out of any particular territory by means of a Chinese wall too high for it to get over. It finds its way into the human system along with the air which is taken into the lungs in the act of respiration. It passes in company with life-giving oxygen through the walls of the pulmonary vessels into the blood, and circulates through all parts of the body; assaults first of all the organic nervous system, the system of nerves which preside over organic life, and in the end involves the entire organism in one common pathological condition, with disorganization of the blood, visceral inflammations, congestions, and hypertrophies, and febrile and neuralgic commotions following in its train. Such being the origin of the malarial poison, and the laws which control its action, the sanitary measures necessary to be taken against it are obvious enough. The one thing needful to be done is to put a stop to its production by destroying the conditions out of which it is known to arise. Take away the water, which is the mother of it, or take away the sun, which is the father of it, and the malignant child will never be begotten. Take away the water by thorough drainage, and by filling up the low places in which it accumulates; take away the heat of the sun by building houses and planting trees—that is to say, cover the wet earth with a mantle of impenetrable shade. Every house that goes up for the habitation of man or beast, every green thing that makes a shadow on the ground, interposes a barrier, more or less effectual, between the imprisoned water and the sun, and so interferes more or less with the generation of the poison. This is why the central parts of the city, where the houses are crowded together, are more healthy than the less densely populated suburbs It is necessary to remember, however, with reference to the influence of shade, that while green trees, by intercepting the sun's rays, interfere with the generation of malaria, and by condensing on their verdant foliage the moisture with which the malaria seems to be entangled, check its transportation from place to place, they are not therefore to be considered as efficient agents for its destruction. On the contrary, there is reason to believe that the poison may find a house of refuge among the green leaves against the Saturnian fury of its father, the sun, so that it is of doubtful propriety to have dwelling houses too closely embowered among overshadowing trees.

All the conditions which I have described as contributing to the production of malaria, are to be found in the suburbs of Mobile, particularly in those that lie south and north of the city. All the approaches to the city are, for the most part, denuded of trees, and thus lack the blessed protection of the shade. Surface and subsurface drainage is extremely imperfect, so that the water which descends in the form of rain, accumulates in the low places, and sinks slowly into the sandy soil, thus assuming the necessary relation to

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the sun. During our long summers the hot rays of the sun pour down without let or hindrance, down on the unshaded, wet earth, down on the imprisoned water, and lo! the deadly malaria, armed with mysterious powers of pestilence, is evoked into malignant life, and let loose on a suffering people. And its ravages are not confined to the localities of its birth, but all the winds of Heaven, as they pass over these pestiferous suburban regions, gather up the abundant poison and scatter it over the whole city; so that the breezes which should bring to us from the north the balsamic fragrance and the melancholy music of the pine forests, and the breezes which should come to us out of the salt seas laden with the perfumes of the sweet south, and with healing on their wings, are all transformed into messengers of death, and scatter broadcast in all our homes the seeds of pestilence.

> Can such things be
> And overcome us like a summer cloud,
> Without our special wonder?

Banish malaria from Mobile and you get rid of one-half of all the diseases which afflict its inhabitants—surely a consummation most devoutly to be wished. I have shown how this can be done. It is a mere question of drainage and of shade, and this again is a mere question of dollars and cents, and lies wholly within the region of the possible.

The Natural History of Yellow Fever.

Of all the diseases known to our people, that which is most dreaded, and which interferes most seriously with the commerce of the city, is yellow fever. The annual visitations of malarial maladies which afflict so severely the dwellers in all our suburbs, although causing much sickness and much consequent suffering of various kinds, yet claim from us a comparatively small tribute of human lives, and so are not regarded with such feelings of trepidation and shuddering horror as are induced by the less frequent but more deadly visits of our great epidemic. I have said, in the most positive terms, that *the annual endemics of malarial diseases which afflict so severely our suburban population can be utterly abolished and destroyed;* and have so said because I have abundant warrant in well-established facts and principles of medical science. Of the possibility of banishing yellow fever from our borders for all time to come, I cannot speak so confidently. *But I believe that this also can be done;* believe it with a firm, unwavering faith, which is the result of a careful study of almost all that has been written or spoken on the subject. I know that in this belief some of our oldest and best physicians do not agree with me, but I am ready to give a reason for the faith that is in me, and the gentlemen who hold a different opinion are not infallible. They have been mistaken in their views

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of other medical questions, and it may be shown peradventure that they are also mistaken in this. At any rate, the matter is one of so much importance to the people of Mobile, involving so much concerning the health of the city, and its fitness as a place of permanent residence, and so much concerning its financial and commercial prosperity, that a systematic elucidation of it cannot fail to be of interest. And this elucidation I propose to make in such terms as will be comprehensible, not merely to members of the medical profession, but to all intelligent readers.

In the progress of the discussion I shall endeavor to show:

That yellow fever is a specific fever, caused by the introduction into the human organism of a specific poison, which manifests itself by the production of specific symptoms.

That this specific yellow fever poison is not of the same nature as our common malarial or paludal poison, and is not generated through the operation of the same agencies.

That, consequently, specific yellow fever, epidemic and pestilential, is not a variety of malarial or paludal fever, that is to say, of what we commonly call bilious remittent fever, but a fever *sui generis*, and independent of all malarial influences.

That it is doubtful whether yellow fever is an indigenous endemic even in the West Indies where it is commonly believed to have been born into the world; that, in other words, it is doubtful whether the yellow fever poison is ever produced by any combination of climatic influences, solar and telluric.

That *per contra*, the yellow fever poison is most certainly generated in the bodies of men and women who are sick of the yellow fever disease, and is transmitted through various agencies into the bodies of other men and women, where, when the resistance of nature is overcome, it works out its pestilential mission; so that, in the strictest use of language, yellow fever is an infectious disease.

That the poison of yellow fever—as also the poisons of small pox, measles, scarlet fever, and the whole family of infectious maladies—is composed of organic germs, which multiply their generations under the sun like other living creatures.

That it is quite possible that these pestilential organic germs—these yellow fever microzymes, when thrown out into an atmosphere warm and moist, and containing sufficient organic material to furnish them with necessary nutriment, may also grow and multiply outside of human bodies.

That, however, the yellow fever poison may be generated, and whatever may be the essential nature of it, it is certain that it may be transported from place to place, over wide spaces of land and sea, in ships and cars, in clothing, and bedding, and various merchandise.

That the yellow fever poison thus carried from infected places may, under circumstances of a congenial character, inaugurate pes-

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tilential epidemics in localities ordinarily exempt from its ravages.

That, however the question may be decided as to whether yellow fever is indigenous and endemic in the West Indies, we have good reason to believe that it is not indigenous and endemic in the city of Mobile, but contrarywise, that it is always brought here in ships.

That, consequently, as the conclusion of the whole matter, this dreadful pestilence, from which Mobile suffers so much in the loss of precious lives, and so much in the loss of money, which is also precious in its way, may, as we have good reason to believe, by proper sanitary regulation, be kept permanently away from our city.

There are three theories of the nature and origin of yellow fever, each based upon a different theory of the nature and origin of the yellow fever poison. We will proceed to examine each of these separately:

The First Theory.

A theory of the yellow fever poison, at one time of considerable prevalence, and in support of which can be adduced the great names of Thomassini, Cleghorn, Lind, Hunter, Allison, Cragie and Martin, is that which makes it of the same nature and the offspring of the operation of the same climatic agencies, solar and telluric heat, humidity and vegetable decomposition, as the poison of our common malarial fevers, intermittents remittents and congestives—the very same poison indeed, but endowed with more malignant energy by the longer continuance of hotter weather.

This theory is falling rapidly into disrepute, but it is still held by a few prominent physicians. It is untenable for many reasons. The morbid anatomy and symptoms of the diseases produced by the two poisons respectively, are widely different. There is in true yellow fever, for the most part, an absence of that periodicity which is an unfailing characteristic of true malarial fever; yellow fever being a continued fever of one paroxysm, while malarial fever is a periodical fever of many paroxysms. There is in yellow fever an unexampled range of hæmorrhages; in malarial fever these hæmorrhages are generally absent. Albuminous urine is almost invariably found in yellow fever; it is only occasionally found in malarial fever. Quinine has a power over malarial fever that is beyond the reach of doubt or cavil; it has not the same power over yellow fever. Men suffer from attacks of malarial fever again and again, becoming more and more susceptible to the influence of the malarial poison with each successive attack; while one paroxism of yellow fever undoubtedly fortifies the system against subsequent danger, second attacks, to say the least, being of rare occurrence. But the weakness of this theory of the origin of yellow fever in the same climatic influences which produce malarial fevers, is made still more evident by another line of argument. If yellow fever is merely a more

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malignant variety of malarial fever, produced by the longer prevalence and greater intensity of solar heat in connection with the other factors engaged in the generation of malaria, then ought yellow fever to prevail, from time to time, in all malarial regions where these conditions obtain. But it does not. It is found along the west coast of Africa, a very paradise of malarial fevers, truly; but the east coast of the same continent, with substantially the same climate, is exempt from its ravages. It is not known at all in Asia, neither among the indigenous inhabitants, nor among Europeans living there, although in the East Indies we have a climate of tropical fervor, and of tropical luxuriance of vegetation in every stage of growth and decay. Here we have all the varieties of malarial diseases in their widest prevalence and most malignant forms; but through all this vast tropical region yellow fever has never made its appearance. Now, on the malarial theory of yellow fever, how are these facts to be explained? How do we account for the complete freedom from yellow fever of these tropical hot-beds of malarial infection? But the argument can be made still stronger. For while yellow fever is not found in these hot regions where malaria is so abundant, and malarial diseases so malignant, it has pushed its epidemic conquest up into comparatively high latitudes—away up into the temperate zones, where malarial fevers exist only in their mildest types, as, for example, in the city of Philadelphia.

The Second Theory.

Another theory of yellow fever, which has been held by many, is, that while it is not the offspring of the malarial poison, it is still the production of endemic and climatic causes, which are at work in many warm regions, and notably in the West Indies. It seems to me that this theory will not bear confrontation with facts any better than that which we have already disposed of. Because, if this theory is true, we ought to find yellow fever wherever we find the necessary endemic and climatic conditions; just as we find malarial fever wherever those circumstances obtain which are known to minister to its production. But yellow fever shows no such constant relation to constant climatic conditions. In the West Indies, for example, which it seems to have chosen as its favorite haunt, yellow fever seems to have been unknown until about two centuries ago, the first authentic account which we have of the malady being that given of the epidemic of 1647 by Ligon in his history of Barbadoes. Now the climatic and endemic influences at work in Barbadoes, and in other parts of the West Indies as well, are essentially the same since 1647 as they were before that date; and if they are adequate *now* to the generation of epidemics of yellow fever, it would seem that they should have been adequate *then*. But as these beautiful islands remained free from the presence of the pestilence

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for a century and a half after their discovery, and all the time subject to the same climatic and endemic influences, we are forced to the conclusion that the new fever which was born into the world in 1647 must be the offspring of some new morbid cause.

In the valley of the Amazon, again, we have the sun of the tropics in all its torrid splendor, and the vegetation of the tropics through all the genera and species of earth's richest flora, in such magnificence and profusion as to defy all the commonplaces of description. Now in connection with this region there is a very singular and a very suggestive scrap of history. For at least a century and a half, up to the year 1850, the river Amazon limited the extension of yellow fever south of the line. While the pestilence was raging in epidemic after epidemic north of the great river, the people living in substantially the same climate, only south of the river, were never called upon to suffer from its malignant visitations. They seemed to lie outside of the geographical limits of the disease. But this fortunate immunity was not destined to continue. The great fever has found its way across the great river, and made conquest of other nations; and, since 1850, the people south of the Amazon suffer the same as their neighbors. If yellow fever depends strictly on climatic causes, this fact cannot be explained. The climate has not changed, consequently the climatic diseases have not changed. Sun and air, and water and decomposing vegetation, generate the same morbid agents since 1850 as before, and generate no others. Whence then this terrible disease which was before unknown? The answer is plain. A new factor, not climatic, has gained a footing in the land. And this new factor, what is it? We shall see in due time. But the strongest of all the arguments against the epidemic origin of yellow fever, which in two different forms is assumed in the two theories already discussed, is involved in the examination of the next theory of the disease.

The Third Theory.

The last theory which I shall mention, is that which teaches that yellow fever is caused by a specific poison which is generated in the bodies of those who are sick of the disease; and that it is communicated from person to person just as the small pox, measles and scarlet fever, are known to be communicated from person to person, and in the same way; so that yellow fever is truly an infectious and, in the common meaning of the word, a contagious disease. This is the theory which I myself believe to be the true one. It was universally accepted by those who were witnesses of the first epidemics of this fever, both professional and non-professional, and has remained the predominant opinion in the popular mind until the present day. The opinion of the medical profession has not been so

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uniform: there have been many facts recorded which seem to be inconsistent with the doctrine of contagion; and only a few years ago it was very much the fashion in medical circles to deny the contagious character of the disease, and particularly was this the case among American physicians. In the last few years, however, the doctrine of contagion has regained the ground which it had lost, and almost all recent medical authorities accept it as beyond all reasonable question; so that the doctors and the people have come together again. Thus, Aitken defines yellow as "A specific malignant fever of a contagious type, occurring, as a rule, only once during life, and propagated by contagion." And Dr. McDonald, author of the exceedingly able article on yellow fever, in Reynold's system of Medicine, the most recent and most able work on practical medicine in the English language, calls it "an infectious continued fever;" the context showing that he uses the word "infection" in the same sense which Aitkin attaches to the word "contagion."

The proofs which could be brought to support this theory would fill many volumes. I can give here only two or three.

Importation of Yellow Fever into St. Nazaire.

The Anne Marie, a wooden sailing vessel, loaded with sugar, left Havana for France about the 13th of June, and during the prevalence at Havana of an epidemic of yellow fever. Out of a crew of sixteen persons, nine had the fever during the voyage, and two died. The ship arrived at St. Nazaire on the 25th of July with seven men still sick, but all of them convalescent, thirteen days having elapsed from the date of the case last taken ill. As there had been no fresh cases and no deaths for ten days, the ship was not placed in quarantine on her arrival at St. Nazaire. The crew quitted the vessel and scattered through the town, and seventeen fresh men were employed to discharge the cargo, which work they finished in eight days. Of these men, twelve or thirteen had the fever, and several of them died. The ship "Le Chastan" was close alongside the Anna Marie, and her crew, five in number, were all on board that vessel for about a quarter of an hour. Le Chastan left St. Nazaire for Indret, on the Loire, on the 29th of July, and reached that place with her crew still well, but between the 1st and 5th of August they all had yellow fever, and by the 10th they were all dead. Altogether, it is on record that forty-one cases of yellow fever were communicated by the Anna Marie, resulting in twenty-six deaths. It is to be especially noted, too, that several of these cases had no direct communication with the infected ship. M. Challion, a physician, at Indret, contracted the infection from four laborers whom he treated at their houses. In another case, one of the laborers carried the disease to his wife, and to an old man in whose house they lodged, and the old man died of it. Now in the country along the

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lower Loire, in which St. Nazaire and Indret are situated, no yellow fever, nor anything like it was ever known, and there is no doubt, whatever, that the disease was carried there by the infected ship Anna Marie, and scattered through the country by men who contracted it on board of her.

How Yellow Fever Originated in Malaga in 1803.

In the epidemic of yellow fever, which occurred in Malaga, in 1803, the first case was in the house of Verduras, a noted smuggler, and was brought from a vessel in the bay. The case died, and was privately buried in the adjoining church of St. Peter. On the 26th of August, and next three days, the son of the smuggler, and two other men, associates of his, were attacked, and two died. Soon after the death of the son, namely, on the 3d of September, the mother and two sisters sickened with the same fever. The father died on the 15th of September, and one daughter, and another son on the 19th. While the distemper was thus running through this family, persons living near and friends of the family were also seized; and the disease spread from this house and locality through the town. The curate who officiated at the burial of the first case was himself taken sick a few days afterwards and died, together with the physician who attended him; and, in like manner, every person connected with the curate's family was taken ill and died; even the sacristian and his wife, as well as the boy who attended the priest at the altar. Nay, more: many persons who entered the church of St. Peter to hear mass on St. Michael's day were attacked with the distemper, and many of them died.

And so I might go on indefinitely with accounts of similar character; such as the cases of the Bann, the Imaum, the Rattlesnake, the Icarus, the Eclair, all of which are well known to those who have investigated this subject. But it is not necessary for the purpose I have in view to dwell at greater length on testimony of this sort.

The Nature of the Yellow Fever Poison and the Modes of Dissemination.

I have already indicated that I believe the poison of yellow fever to be of a specific nature, capable of generating in human bodies the disease known as yellow fever and no other. I have, also, indicated that I believe the yellow fever poison to be of organic nature and of organic origin—composed of living germs in innumerable number—living organisms of inconceivable minuteness, which eat, and drink, and multiply their generations under the sun just as other living creatures do with which we happen to be more familiar.

You will notice that with reference to the nature of this poison I

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state only what I believe, not what I know. The extremely minute organisms, which give rise, according to the most probable theory of the matter, to all our epidemics of yellow fever, have hitherto, for the most part, eluded the most jealous scrutiny of our most powerful microscopes. They cannot be seen. They are not evident to the touch—I make use of the qualifying phrase, "for the most part," because some few who have attempted the microscopic study of this disease, claim to have demonstrated the organic germs upon which it depends. Quite recently indeed a good deal of attention has been attracted to this theory of organic germs in its application to the whole class of zymotic maladies, including small pox, measles, scarlet fever, cholera, yellow fever, and several other fevers recognized as contagious. The general public are more familiar with the experiments of Prof. Tyndall, showing that the air we breathe is filled with innumerable floating particles of organic dust, which of necessity passes into the lungs with every inspiration of the breath of life, with what effect, beneficial or detrimental, to the physical welfare of the earth's inhabitants, must be left chiefly to conjecture. But the medical profession have given more attention to the views presented by Saunderson, Chauvau, Hallier, and the other members of the profession working in this fruitful field. These observers have reached the conclusion that the contagia of all zymotic diseases consist of solid living particles, in a word, of organic bodies; and they have even gone so far as to show that it is extremely probable that those solid organic bodies are the micrococci of specific fungoid plants.

However this may be, the incidental and circumstantial testimony in support of the organic nature of the poison of yellow fever is too strong to be easily set aside. The indisputable fact that the poison reproduces itself, multiplying its generation according to its kind, is, of itself, when well considered, sufficient to overcome all reasonable doubt on the subject, since it finds no possible explanation on any other hypothesis. Inorganic bodies of whatever kind do not increase in numbers by any process of self-multiplication. Only living organisms are competent to appropriate to their own use materials of growth and development; and still more emphatically is it true that only living organisms can give rise to indefinite generations of individuals like themselves through any process of sexual or of asexual reproduction—by gamogenesis or by agamogenesis.

There are many things, also, connected with the propagation of yellow fever which are more easily explained on this hypothesis than on any other. It is quite in harmony with our ordinary experience that yellow fever microzymes should only be able to live and multiply under certain conditions of climate as to temperature, humidity, and the like. And as all living things grow by the ingestion and assimilation of food, we can easily understand if the yellow fever microzymes fail in any place to find a sufficient amount of appropriate

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nutriment, they must starve and die. What particular food it is which affords them sustenance is a matter of curious speculation, involving important practical consequences; since it is evident that if we could destroy the pabulum upon which their development and multiplication depends, they must perish miserably of inanition, instead of becoming malignantly energetic in the production and propagation of epidemics.

In this important inquiry as to the food of the microzymes we are not left wholly to conjecture. If they belong to the class of microscopic fungi they require organic food—cannot live, and grow, and multiply without organic food. This organic food they find primarily in the bodies of men and women, in which they must grow and multiply with amazing rapidity. But it is also more than probable that they may also grow and multiply outside of human bodies under favorable climatic influences, when they find floating in the all-embracing air a sufficient supply of organic matter to maintain their vital functions in active exercise. This aërial propagation, however, must always remain subordinate and provisional, and would not alone be sufficient to perpetuate the microzymes through endless generations. There are certain facts in human physiology which will illustrate what I mean. Man is a living individual organism. He is, also, from another point of view, a complexus of subordinate living organisms. The white blood cells, for example, are individual organic creatures, which appropriate nutritive materials from the blood plasms, and live, and grow, and give birth to other white blood cells like themselves. Now, under certain circumstances, which I need not stop to detail, the white blood cells pass out of the blood vessels, so that they are no longer part and parcel of the human organism in which they originated, and are transformed into pus cells, or mucus cells. And these pus cells and mucus cells after they thus become foreign bodies in relation to the organism whence they sprang, still remain prolific for a time, and give birth through many generations to prolific offspring. But ultimately this power of reproduction fails, and we can have no more mucus and pus without a new requisition on the white blood corpuscles. Who can fail by this to be reminded of that mode of reproduction so common among certain families of insects to which Owen has given the practical name of parthenogenesis—the mode namely in which the female brings forth her young without the concurrence of the male. The female aphis, for example, while food is abundant and weather favorable, will bring forth successive broods of young aphids without any preliminary impregnation by her male companion But when the divinities of earth and air are no longer propitious, that is to say, when food is no longer abundant and weather no longer pleasant, she is no longer fruitful without the male; and in the strange drama of aphid life, parthenogenesis gives place to gamogenesis.

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I know that the doctrines and illustrations which I have presented in this article will seem to many no better than the visionary fancies of a distempered brain, but all whose knowledge of the subject enables them to form an intelligent opinion, will know that I have stated nothing but well established facts, and that I have drawn from them nothing but legitimate interences. The visions of modern science are more wonderful than the visions of Eastern fable, and this practical and utilitarian age in which we live—

> This age that blots life out with question marks,
> This nineteenth century with its knife and glass,
> That makes thought physical, and thrusts far off
> The Heavens, so neighborly with man of old,
> To voids sparse-strown with alienated stars,

has given us a new world of scientific realities not less marvelous than the old world of poetical and romantic imaginations which it has so ruthlessly destroyed.

We have thus reached three notable conclusions as to the nature and habits of the yellow fever poison, namely:

1. That the yellow fever poison is composed of living organisms endowed with the faculty of reproducing their kind.
2. That this faculty of reproduction is primarily manifested in the bodies of human beings, where the poisonous organisms find their fittest pabulum.
3. That this faculty of reproduction is also manifested secondarily, under favorable climatic influences, in the air we breathe when it furnishes the requisite food for the growth and development of the microzymes.

We have next to inquire into the diffusion and transportation of the poison from person to person, and from place to place.

The transportation from person to person presents no special difficulty. The facts and principles already elucidated, warrant us in the belief that the atmosphere of infected places becomes, as it were, saturated with the yellow fever microzymes, the multitudinous generations which are born into the world in the bodies of the sick being reënforced by other multitudinous generations born into the world in the warm and humid air, so that in the process of respiration they are taken into the lungs, and from the lungs absorbed in the blood, and along with the blood conveyed to every part of the system, until at last the conservative energies of the organism are overpowered, and the state of disease succeeds the state of health. The transprtation of the poison from place to place, presents for solution a somewhat more difficult problem. It can certainly be carried in the bodies of those who are sick of the disease. It may, also, be carried in the bodies of those who are not yet sick, but who bear within them the seeds of the pestilence which may spring up in a few days and bear malignant fruit. It can be carried also in ships and cars, in the shape of fomites, along

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with clothing and merchandise. All these modes of transportation are sufficiently well understood. But there is another mode of dissemination about which our knowledge is not so definite, namely, its diffusion through the air and its transportation by means of atmospheric currents. That it can, in this way, be transported for short distances, as from one room of a house to another, or possibly from one side of a street to the other, is not to be doubted. But can it be transported in this way from one town to another? or across the waters of the dark blue sea, from one country to another, miles and miles away? There is no question connected with the propagation of the disease more important than this in its practical relations to the problem of the preservation of the public health. There are not wanting authorities of great weight who hold that the transportation of the poison in this way over vast tracts of land and sea, on the wings of the wind, is the principal means of dissemination, while the other means of dissemination which I have mentioned, are held by these same authorities to be of slight importance or of none. My opinion in the matter is the exact contrary of this. I believe that inthe propagation of epidemics the atmospheric dissemination of the poison is of quite subordinate importance, and efficient only for short distances, and that when the poison passes over wide intervals of space, whether of sea or land, it is carried by some agency of human travel, by ships or cars, in clothing or merchandise, or some form of fomites, or in human bodies. If facts have been observed in support of the wave theory of the propagation of epidemics of yellow fever, very few of them have been recorded, while facts in support of the other theory are scattered all through the history of the pestilence from its origin to the present time thick as autumnal leaves in Vallombrosa.

The Means of Protecting Mobile from Yellow Fever Epidemics.

I come now to consider the inquiry which has prompted me to the writing of this article on the public health—the inquiry, namely, whether any means are known to medical science by which the city of Mobile can be preserved in the future from those terrible epidemics of yellow fever from which in the past she has suffered so severely, both in population and in commerce.

I commence this part of my discussion of the natural history of this pestilence by giving expression to my opinion that it is quite within our power, by the wise employment of appropriate measures of prophylaxis, to prevent yellow fever for the most part from making its appearance amongst us at all; and that when it does unfortunately find a lodgment within our borders we can so limit its propagation as to keep it from assuming the formidable proportions of an epidemic. I know that all the people of Mobile will

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agree with me that this is a consummation most devoutly to be wished, and that to make certain of it no price which the city is able to pay would be considered too great. It is evident that the adoption of measures of protection against the disease must depend, to some extent, on our conception of its nature and of the conditions necessary to the generation and dissemination of its specific poison. But it will be seen as we advance, that most of the protective measures which I shall advocate are equally in harmony with all of the three principal theories of yellow fever, to which I have called attention, so that I hope to be able to unite all shades of medical opinion in support of my plan for the protection of the city, if not in support of my pathological doctrines.

The various measures of protection, of which I shall treat, may be conveniently arranged under three heads:

1. Measures to prevent the importation into the city, from other places, of the disease and of the organic germs on which its propagation depends.

2. Measures to so modify the telluric and atmospheric conditions of the city that the organic germs of the fever poison, even after its importation, would not find an environment favorable to their development and multiplication, and so would fail in their malignant mission to generate pestilences.

3. Measures during the prevalence of the fever in the city, to restrict it to the smallest extent of territory and the fewest number of persons.

QUARANTINE.

Measures of quarantine—that is to say, measures intended to prevent the importation of diseases from one country to another—have been more or less relied upon for several centuries for protection against yellow fever and other pestilential maladies. The prophylactic value of quarantine is, on theoretical grounds, largely dependent on the preliminary question as to which one of the three theories of yellow fever which I have mentioned is the true one. If yellow fever originates in every locality where it prevails—if, for example, it is here in Mobile a disease of local origin, a true endemic, it is at once evident that no advantage can be derived from any quarantine, however stringent. Or, if the wave theory of the propagation of the disease is true—if we are to admit its transmission across wide intervals of sea and land, by atmospheric tides, or upon the wings of the wind, then, also, must all the devices of quarantine prove utterly useless. We cannot erect barriers against the tides of the atmospheric ocean. We cannot bind the swift winds with fetters.

But if, as I believe, yellow fever is never spontaneously produced by telluric and climatic influences, neither here in Mobile nor indeed anywhere else; if contrariwise, it is always propagated by or-

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ganic germs, like smallpox and measles, so that it can only become a permanent inhabitant of places where the climatic and other conditions are consistent with the continuous vitality and multiplication of its germs, conditions, namely, of continuous warmth and humidity, and the presence in the air of appropriate food for the germs to live on; if this is the true theory of the disease, and both of the others false, then quarantine becomes a prophylactic agent of more importance than any other of which we have any knowledge. On this theory, indeed, if quarantine could be made thoroughly effective, if all intercourse with infected places could be abolished, our security would be absolute. But here lies the trouble. In this age of steamships and railroads, and feverish commercial activity, and with such a spirit of reckless enterprise and adventure to deal with as is now abroad in all civilized countries, the practical difficulties which stand in the way of efficient quarantine are very many and very great—so many and so great, indeed, as to be very nearly insurmountable. With yellow fever in Havana or New Orleans, for example, it would avail but little to quarantine the vessels coming up the Bay, unless restrictions were also extended to the trains of the Mobile and New Orleans Railroad. Even if the progress of infection was checked along these two routes of travel, the way along the great interior lines would still be open. And to put an impenetrable cordon all around the city, would involve an amount of trouble and expense not to be seriously thought of. While, then, I hold, in general terms, that an absolute quarantine would be an absolute protection to the city against invasions of yellow fever, I am also obliged to believe that a thoroughly reliable quarantine is practically impossible.

Nevertheless, such a modified quarantine as could be enforced would be a means of protection not by any means to be neglected or lightly valued. During epidemic seasons no person sick of the fever should be allowed to approach the city; no well person should be allowed to come in until his clothing and baggage had been disinfected; no ship should be allowed to come near the city until she had been purified from stem to stern; no cargo should be landed until it was accounted above suspicion.

Measures of Local Hygiene.

Local causes of disease, which admit of modification by intelligent human effort, may be loosely divided into three groups, namely: Those referable to the earth; those referable to the water; and those referable to the air. Of these three groups of causes of disease we will speak of each in its turn.

It is necessary to be borne in mind that inorganic or dead matter always occurs in comparatively stable combinations—in combinations little liable to change from the operation of ordinary meteoro-

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logical and climatic influences. On the other hand, organic matter —the matter out of which living organisms are made—is remarkable for great complexity of chemical composition, and for the facility of change which it exhibits in relation to surrounding natural or artificial agencies—a facility which manifests itself in every kind of growth and decay, or of progressive and retrogressive metamorphosis, and notably in all the processes of putrefaction and of fermentation.

It is easy to understand, consequently, that the inorganic matter, the rocks, the sands, and the clays, which make up the superficial crust of the earth, exerts but little influence in the generation of diseases, and especially of specific fevers of the zymotic order. It is equally evident, on the other hand, that the influence of organic matter in the generation of specific fevers which depend on the activity of organic germs is necessarily great; and this influence, it must be observed, proclaims itself alike through the poisonous fever germs which, as I have explained, grow and multiply, inside of the human body or out of it; and also through the food upon which these germs live, and whence they obtain the faculties of growth and multiplication.

Now, these organic matters which, in certain stages of their existence, are to all the ministers of health and of life, may become to many, in another stage of their existence, the ministers of disease and of death. Organic matters, in all the various stages in which they are most detrimental to human health, in all the various stages, namely, of retrograde metamorphosis, of putrefaction and decay, occur in particular abundance in cities where large numbers of people are gathered into narrow limits of space. This abundance is derived from many sources. The decay of fruits and vegetables contributes to it. The litter of animals in the streets contributes to it. The traffic in bones and guano, and other fertilizers, contributes to it. But perhaps the contributions which are largest in quantity, and certainly most noxious in quality, are those derived from the sinks of the innumerable privies which receive the excretions of human bodies.

From all these various sources, and from many others which need not now be mentioned, the porous sandy soil and sub-soil of Mobile has become permeated almost to saturation with decaying organic matter, which, under the conjoint action of subterranean water and solar heat, throws up into the atmosphere of the city a hot steam of organic effluvia, filling that also almost to saturation. The three factors then which are at work in malign conjunction to render the earth unwholesome are these, namely: The organic matter imprisoned in the sandy soil, the subterranean water, and the heat of the sun. Without both of the other agents the organic matter would undergo no change and would consequently remain innocuous.

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As the malignant agents are three, the means of protection may be considered under three heads:

1. To get rid of the organic matter.
2. To get rid of the subterranean water.
3. To get rid of the heat of the sun.

To get rid of the organic matter permeating the soil and sub-soil of the city, that which is already entangled in the meshes of the sand must be destroyed, and the supplies of new material must be stopped. The organic matter already diffused through the pores of the earth is in a condition of more or less rapid decay—is undergoing a process of oxidation by means of which it will ultimately be burned up and utterly destroyed, leaving nothing in its place but a few innocent ashes. To prevent the continuous accumulation from keeping pace with this continuous destruction the sources of supply must be turned into new channels. The streets, and yards, and houses of the city must be kept scrupulously clean. The washings of the streets must be conducted through proper sewers to some convenient place outside of the city limits where they might be converted into fertilizers. The contents of privy sinks must not be left to be slowly absorbed by the earth, but these also must be conducted beyond the limits of the city, and after proper preparation spread over our barren pine lands until they are made to rejoice and blossom like roses. Or, if any general system of sewers is not thought best, let privy sinks be abolished altogether, and dry earth closets substituted in their stead, and the same purposes of cleanliness and fertilization would be equally well served. All the minor sources of contamination could be easily abated.

To get rid of the second of these epidemic agents, the superabundant subterranean water, there is but one way, namely, by means of a thorough system of drainage. To get rid of the third, we could only interpose the protecting influence of abundant shade. Cover the empty lots with houses; cover the streets with pavements; cover the empty spaces with green trees. In this way we would not only retard the march of yellow fever epidemics, but we would banish out of the city the whole great class of malarial diseases from which our people suffer so much, particularly those who dwell in the suburbs.

The local causes of disease referable to the waters—to the waters, that is to say, which we drink, and to the waters of our creeks and rivers and bays, and not the waters imprisoned in the earth which has already been treated of, are chiefly two, namely: the organic matters which they contain in common with the earth, and the atmospheric humidity to which they give rise. A very considerable amount of organic matter is held in solution by the water of the river and bay. Much of it is derived from the washings of woods, and fields, and farm yards, from a wide extent of country above the city, and is brought down by the river-current, receiving fresh ac-

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cessions at every step of its progress; and this is largely added to here by the abundant filth and garbage of the city. The amount would be much greater than it is, but for the wise provisions of nature for its destruction. The constant motion of water exposes it constantly to the influence of the atmosphere under circumstances most favorable to its rapid oxidation, and in this way, it passes back into the domains of inorganic nature, and becomes innocuous. But a part of it escapes destruction for a time, and rises into the air along with the watery vapor produced by evaporation, to add to its contamination. As to the waters used in the city for drinking and for domestic purposes, a few words will be sufficient. The water brought from Spring Hill by the water works, which constitutes the principal supply of the city, is of excellent quality, and notably free from organic impurities. But the same cannot be said of the water of our wells and cisterns, which, when supplied from the surface of the earth, or from depths only a little distance below the surface, must of necessity be subject to more or less organic pollution. To what extent the organic matter which is taken into the stomach with the water we drink, contributes to the support of any sort of disease, is a question not fully settled. We have good reason to believe, however, that it is far less active for evil than that which passes into the lungs along with the air we breathe.

This brings us to the consideration of those atmospheric causes which minister to the support and propagation of zymotic diseases—causes of far greater immediate importance than those belonging to the earth and the water, because it is only through the medium of the air that these last are enabled to manifest their malignant activity in the production of pestilence.

The air everywhere, and particularly the air of cities, is more or less loaded with organic impurities and with noxious inorganic gasses, both the organic and the inorganic impurities being in many ways detrimental to health and life. How these agents of contamination find their way into the lower chambers of the air to mix and mingle with the perfumes of the flowers, is easily understood. They rise in clouds of organic dust from the streets. They steam up in misty exhalations from the hot and humid earth. They are given out along with aqueous vapor from the surface of all bodies of water exposed to the sun. They are poured from the throats of thousands of chimneys in the shape of smoke, the result of the imperfect combustion of fuel. They are exhaled in every act of respiration from the lungs of animals and of men. With fountains of defilement so many and so prolific, the cause of wonder is, not that the air becomes so greatly contaminated as it does, but that the contamination is not greater than it is. Indeed, it would soon become entirely unfit for respiration if it was not endowed, like the earth and the water, with the power of self-purification—the power, namely, of oxidation, by means of which its organic impurities are

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destroyed, are, in fact, burned up and reduced to harmless inorganic compounds—to mere dead dust and ashes.

From these considerations, it follows that our efforts towards atmospheric purification must needs be exercised in two directions, namely: First, To reduce to the minimum the amount of noxious materials thrown into the air for its contamination, by the purification of the earth and the water, as already explained; and, secondly, To increase to the maximum the destroying energy of the purifying process of oxidation. How is this last desideratum to be accomplished?

Organic substances in the air are destroyed, as already indicated, by oxidation, that is to say by a process of slow combustion. The principal agent in this destructive process is that active allotropic form of oxygen which is known as ozone. This ozone is a very important agent in the economy of nature, with which we are just begining to make familiar scientific acquaintance. It exists in the air, always in small quantity; but the relative percentage varies with times and places. It is more abundant in high salubrious regions where jocund health peeps over the misty mountain tops, than in the plains and swamps where but too often sickness follows in the track of care. It is, also, more abundant after the purifying influence of thunder storms, than during hot, humid, unwholesome weather. In a word, it seems to be the great depurating agent of the atmosphere, the universal scavenger of nature.

Now it is worthy of remark that ozone is very generally deficient in the atmosphere of cities; and this deficiency has been more particularly noticed during the prevalence of epidemics. The reason of this is not far to seek. The ozone is exhausted before the exhaustion of the materials upon which its destructive energy is expended. If we had any means of adding to the amount of ozone, we could correspondingly add to the rapidity of the purifying process of oxidation. But unfortunately our power in this way to invade the impalpable kingdoms of the air is restricted within very narrow limits. We can generate ozone, it is true, but neither in sufficient amount nor with sufficient economy to meet the requirements of the case. The most we can do, is to supplement the action of the atmospheric ozone by the use of disinfectants, such as lime, carbolic acid, sulphur, and, the most important of all, chlorine, it being the office of these disinfectants either to transform the organic substances with which they come in contact into other combinations which are less noxious, or to destroy them altogether. How this is done may be understood from a brief explanation of the disinfecting action of chlorine. All of these offensive organic compounds contain hydrogen as one of their necessary constituents. For this hydrogen chlorine has an exceedingly eager and powerful affinity—an affinity so great that when it finds these organic compounds containing hydrogen in the air, it seizes upon them with

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unsatiable appetite and deprives them of their hydrogen with which it enters into combination to form hydrochloric acid, a compound which itself possesses considerable disinfecting power. At the same time that the chlorine thus abstracts the hydrogen of the organic compounds, and while one portion of the chlorine is devouring the hydrogen so abstracted, another portion of the chlorine takes the place left vacant by the hydrogen and enters into combination with the other elements of the organic substance, thus giving rise to a new set of chlorine compounds which are not organic and which are not noxious, and which furnish no food to the poisonous microzymes which infest the air during epidemic seasons. Indeed, we have reason to believe that the more powerful disinfectants not only destroy the organic matters which might serve as the food of the fever germs during their atmospheric life, but that they also destroy, and in precisely the same way, the organic fever germs themselves.

By the abundant and judicious use of the more powerful disinfectants, then, we may expect to accomplish a great deal towards the local purification of the air—towards the purification of the air of sick rooms, of the holds of vessels, and even of the yards and streets of infected districts, thus erecting at every step of their progress, barriers to obstruct the dissemination of infectious maladies.

It may very well be that in spite of all our efforts in the way of quarantines and measures of local hygiene, yellow fever will still occasionally declare its dreadful presence among us. In this contingency it becomes a matter of great importance to limit the dis ease as rigorously as possible, to confine its ravages to the smallest extent of space, and to the smallest number of persons, to build against it such barriers as will obstruct its progress, and to wage against it such warfare as will ensure its speediest extermination.

The means for the accomplishment of this purpose may be discussed under two heads, namely, Isolation and Disinfection.

Isolation.

By isolation we mean simply the separation of the sick from the well. This may be attempted by either or both of two methods, namely, by the removal of the well from the infected locality; or by the removal of the sick as fast as they become affected, so as to prevent them from becoming sources of infection to others.

The removal of those who are well from localities stricken by pestilence is usually voluntary. Most of those whose circumstances and business engagements make such a course at all convenient get out of the way of infection. In this way it has been estimated that six or eight thousand persons left this city during the recent epidemic. An exodus of this sort is attended with much inconvenience

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and expense; and, although an adequate means of protection, is only possible to persons in circumstances of comparative affluence. It is a means of safety practically denied to the middle and poorer class of the community, since these, for want of money to go away, must necessarily remain at home at the mercy of the pestilence.

The removal of the sick cannot be left to private and voluntary effort, inability to meet the expenses of removal, and indisposition to leave the comforts of home at a time when home comforts are so greatly needed, and various other causes, too obvious to need express mention, make necessary for the accomplishment of this object the intervention of law and the instrumentalities of medical and civil police. There must be means to give to the proper authorities information as to who have fallen sick with the infectious disease, provision of ambulances for their transportation, and of hospitals for their reception. To make a system of this kind thoroughly efficient it must be made equally applicable to all classes of citizens, to the poorest and to the richest. But it would be necessary to make some distinctions. The city ought not to be taxed to take care of those who are abundantly able to take care of themselves. The very poor would have to be taken in charge entirely at the public expense. The rich would, of course, demand more costly attendance, and would equally, of course, pay their own expenses. Those who are neither rich nor poor might pursue a middle course, might, in a word, avail themselves in part of the public provision, and make provision in part for themselves. The removal of the poor, who must, in any event, be taken care of at the public expense is relatively of greater sanitary importance than the removal of the rich; because the rich, living in better houses, and being able to command better attention, and to make more abundant use of disinfectants, are better able to combat the progress of the pestilence. Nevertheless, no private and personal considerations of wealth and high social position should be allowed to traverse the wise purposes of sanitary legislation. The rich and the great are only human beings after all; and all questions of personal privilege and private advantage must yield to the higher claims of the public welfare. The details of the arrangements necessary to carry out this complete separation of the sick from the well, need not be dwelt upon here. Of course all the blessed amenities of gentleness and wise consideration for the rights, and even for the whims and prejudices of all, even the humblest, must be everywhere exercised.

If it should prove impossible from any cause, say of insufficiency of funds, or of opposition on the part of the people, to accomplish the complete isolation of which I have spoken, something might still be done by prohibiting access to houses or to particular districts where the disease was known to be prevalent. Barricades should be constructed across streets leading through infected districts, and guards appointed, if necessary, to make the prohibition effectual. Yellow fever is a disease of singular local attachments. During the

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recent epidemic in Mobile, a very large proportion of the cases occurred south of Government street; and some neighborhoods in this part of the city suffered much more severely that others. I have no doubt that if proper steps had been taken, it might have been confined entirely to those neighborhoods, and its dissemination over the city prevented. In New Orleans the fever seems, in like manner, to have been confined to the region around the French Market, other parts of the city remaining comparatively healthy. In Memphis, in 1856, while the fever committed fearful ravages in south Memphis, very few cases appeared in the older and more popular part of the city north of Union street. In the epidemic which occurred in Gibraltar in 1804, Col. Fyers removed his family, consisting of fourteen persons, to Europa, established a quarantine, and they all escaped. At the same time, a regiment of troops which was camped within forty yards of them, but not prevented from communication with the infected town, had 442 cases out of a strength of 635, with 187 deaths. Another precisely similar example also occurred during the same epidemic. Captain Dodd's family, seven in number, and Mr. Straitte's family, three in number, lived in detached houses, in strict seclusion, the distance between the two houses being 300 yards. On this intermediate space was encamped the 54th regiment, consisting of 747 men. Of these 456 were attacked with fever, and over 100 died; and yet not an individual of Dood's and Straitte's families was affected, although living within a few yards of this pestilential camp. In the epidemic which desolated Barcelona, in 1821, some very remarkable facts were observed with reference to the infection and exemption of the numerous convents of that city. The following convents, the Capuchins, Los Angelos, Santa Theresa, San Juan de Jerusalem, the Hieronomites, and the Carmelites, observed the strictest seclusion, and not one of them had a single inmate infected, while all the convents which communicated with the city had the greater number of sisters attacked. Thus the Magdalen had fifteen sisters, of whom all had the fever, and ten died; the sisters of Jerusalem, with twenty-eight members, had eleven deaths; and several other convents suffered in about the same proportions. These examples, and their number might be multiplied almost indefinitely, speak more eloquently of the advantages of isolation than any other arguments I could make use of.

Disinfection.

I have already treated of the theory and uses of disinfection at sufficiently great length for my present purpose, in the section on the prevention of domestic causes, and it is hardly necessary to make any recapitulation here.

We make use of disinfectants as a means for the prevention of

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the dissemination of the epidemic fever with two objects in view, namely:

1st. To destroy the fever poison at the very moment and at the very place of its birth, so that it may not be able to travel into other localities to propagate in them also the malignant fever.

2. To destroy the fever poison indirectly by destroying the organic matters in the surrounding atmosphere, whence the poison derives the pabulum upon which it lives.

In addition to the chemical disinfectants already mentioned, there is another means which may be made available for the disinfection of clothing, bedding and other fomites, as well as of closed rooms and apartments, which, as of very great value, ought not to be forgotten; namely, heat. This may be applied in many cases, by immersing the infected articles for a sufficient time in boiling water. But for the purification of rooms and bedding it is better to make use of hot air—of air heated to some 250 degrees of Fahrenheit's thermometer. Another efficient means of disinfection, and one not altogether impracticable, in the same class of cases in which hot air may be used, is the reduction of the temperature to the freezing point. It is evident, however, that this would be attended with more inconvenience and expense than the other method.

I have now finished what I had to say for the purpose of showing that we are not left by beneficent Providence utterly without means of defense against the invasions of this terrible epidemic malady from which we have suffered so often and so much, which has carried desolation into so many households, and interfered so seriously with the commercial prosperity of the city. I have endeavored to state the latest and most authentic conclusions of medical science in reference to the natural history of this fever, and with reference to available measures of prophylaxis, in such plain and untechnical language as to make them comprehensible to all persons of ordinary education and intelligence.

Pulmonary Consumption.

I do not propose in this article to discuss the various theories of phthisis and of tubercle, which are now engaging the attention of the medical profession. It would seem that we are on the verge of some important discoveries in this section of pathology, discoveries which promise to revolutionize commonly received opinions with reference to this class of pulmonary maladies. It has been the fashion for many years to regard the gray and the yellow tubercle as different stages of the same morbid product, but recent researches have gone far to show that they are generically distinct; that the gray tubercle is specific, is transmissible from parent to child, and that it is also, perhaps, infectious; while the yellow tubercle is the product of inflammations not specific, especially of pneu-

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monias, is not infectious, and is not transmissible from generation to generation. While, then, current pathological speculation would lead us to believe that phthisis with gray tubercles is a specific zymotic and infectious disease, like smallpox, or scarlet fever, the tubercle itself being of the nature of an eruption, involving the pulmonary mucous and other surfaces instead of the skin; and that phthisis with yellow tubercle, so called, is really not a tubercular disease at all, but a chronic caseous pneumonia; and while I recognize that no more important problem of practical and theoretical medicine than this is now waiting for solution, I shall not enter into this discussion at all, but shall confine myself to a few broad and well-established principles, about which no conflict can arise.

Of all the physical diseases which flesh is heir to consumption, to use the popular name, is that which inflicts upon civilized communities the largest amount of suffering and claims the largest tribute of human lives. So dreadful have been its ravages that, in the language of another, "it has been regarded as a special mode intended by Providence to reduce a redundant population, as feeble trees in a forest are crowded out of existence by their more vigorous neighbors. It is found everywhere in civilized communities, in the South as well as the North, seeming to be generally distributed. Yet the kind of investigation of its natural history, and of its causes, which we are able to make in these latter days, through the aid of vital statistics, and by the comparison of great numbers of cases, shows that this is far from being true, and places us directly upon the path leading to the discovery of the conditions under which it originates, conditions, which when fully recognized, may be avoided."

Of these removable causes of consumption, there are two which have been so fully established by large statistical returns as to admit of no reasonable doubt:

1. The respiration of foul air by overcrowding and by defective ventilation. Or, as Mr. Simon expresses it, "In proportion as the people of a district are attracted to any collective in-door occupation, in such proportion, other things being equal, the district death-rate, by lung diseases, will be increased." This is now a familiar truth. "Everybody knows, for example, that of two families inheriting a consumptive tendency, if one takes to making shoes in an ill-ventilated shop, and the other goes a lumbering in Wisconsin, the latter will live the longest."

2. It has been clearly shown, particularly by inquiries conducted during the last fifteen years in England and in Massachusetts, that another very potent agent in the production of consumption is *soil-moisture*. The diminution of the percentage of mortality from lung diseases in several towns of England, after the establishment of better underground drainage, have been very striking, amounting in some cases to fifteen or twenty per cent., and in one to as much as forty-one per cent.

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If the distinction, which I have indicated, between the gray and the yellow tubercle shall prove to be well-founded, I think we may look forward to the discovery of measures which, if they are vigorously enforced, will restrict zymotic, infectious and hereditary phthisis, with gray tubercle, within very narrow limits, if they do not destroy it altogether. But the phthisis characterized by yellow tubercle, being the result of non-specific causes, as pneumonic inflammation, must still continue to prevail to a greater or less extent. It is a matter of considerable importance whether the diminution in the death-rate of consumption, under the circumstances which I have mentioned, has occurred in the specific or non-specific form of the malady. Our statistics furnish us with no knowledge in relation to this point, but there are grounds which I need not state here, but which will be sufficiently evident to physicians, upon which I think it safe to conclude that the diminished mortality is chiefly among non-specific cases.

While, then, the solution of the problem of the prophylaxis of consumption must be left to the future, it is something upon which we can congratulate ourselves, that we are already able to rob the destroyer of one-fourth or one-third of his victims, by attention to matters of public hygiene.

Sanitary Supervision.

In order to carry out any wise system of sanitary improvements it is evidently necessary, in the first place, to know what ought to be done; and, in the second place, to know how to do it.

The knowledge of what ought to be done in the adoption of measures for the protection of the public health, can be had only from medical experts. It may be true, according to the prevalent political theories, that knowledge of public affairs and ability to make laws comes, like Dogberry's reading and writing, by nature. But it is very certain that knowledge of medicine comes only as the reward of long and hard study—only to those who scorn delight, and love laborious days. Hence, in our schemes of sanitary improvement it becomes necessary to invoke the aid of medical science in the persons of its legitimate expounders—regular well-educuted physicians.

The carrying into practical operation of any sanitary system necessarily involves many problems, which require for their solution some knowledge of terrestrial mechanics and engineering; and, as knowledge of this sort is not learned in Dogberry's school any more than knowledge of medicine, we cannot dispense with the assistance of competent engineers. Hence, it becomes necessary that the place of a city engineer shall be filled by a thoroughly competent man. I do not know whether we have such a man among our citizens or not. If we have, let him be sought out and let the place

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be pressed upon him. If we have not, we must seek him out some where else, and offer such inducements as will secure his services. When I say that we must have a competent man for the important position of city engineer, I mean what I say in the most emphatic sense of the words.

We need a man who is able to devise large plans of public improvement, which years of labor will be needed to accomplish, so that the labor of each separate year shall contribute something to the final result; so that it shall not become necessary at any time to alter the original plans, or to undo and do over again any part of the original work; in a word, so as to secure the best possible result with the smallest expenditure of money and the slightest possible burthen of taxation.

The first of these engineering problems is to devise and carry into as speedy execution as circumstances will permit, an efficient system of drainage—a system of drainage which will not only remove the water from the surface of the earth, but which will prevent it from becoming stagnant in the subsoil—a system of drainage not confined to the immediate limits of the city, but extending also to the suburbs and to all the creeks and swamps in the vicinity of the city, so that these, also, shall be made salubrious and fitted for the habitation of human beings. I recognize fully the magnitude of the work which I advise; but I believe that under wise supervision we have the ability to accomplish it. But the wise supervision cannot be dispensed with. We must get the full value of every dollar which is paid out, and every step forward must constitute a real and permanent advantage.

Perhaps the next engineering problem would be to secure an adequate supply of water—a supply so abundant and so cheap as to admit of the most unlimited and lavish use—so that all filth might be washed away; so that baths might be introduced into every house; so that innumerable fountains might gladden our eyes and make the hot summer days cool and pleasant; so that every house should have the means of deluging itself with water, making destructive fires romantic impossibilities, and fire engines things of ornament rather than of use. This scheme also is a large one; but like the other, it lies altogether within the regions of the possible. Water of the purest and the best, and in inexhaustible amount, is to be had in a few miles of us, and nothing is needed but to provide suitable reservoirs for its accumulation, and suitable agencies for its transportation and distribution.

The grading and paving of the streets is another work which clamors to be done. Its value to the city would be incalulable. It would make every sort of transportation more easy and more pleasant, lessen the wear and tear of drays and carriages, and prolong the lives of our horses. It would abolish the nuisance of clouds of dust in the dry months of summer, and reduce the scavengering of

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the streets to very small dimensions. It would solve at once in the most effective way the problem of surface drainage, and it would protect the imprisoned water below the surface from too fervid embraces of the arch-chemic sun, and so prevent the generation of a large amount of malaria. Whether we consider it, then, in relation to business, or in relation to pleasure, from a commercial or from a sanitary point of view, we must reach the same conslusion, that it is a work which ought to be done and which must be done.

Board of Health.

But, as I have said, all our efforts towards sanitary improvement must be under the general direction of physicians, that is to say, of medical experts; and this for the very simple and sufficient reason that nobody else can be presumed to have the requisite knowledge of diseases and their causes, and of available measures of proxphylaxis. Hence, it becomes necessary to inquire into the best organization of the Department of Health in our city government.

In Chapter XIV and XV of the Code of Ordinances of the city, provision is made for a board of health, for quarantine, and for hospital accommodation for the sick poor. Many of the provisions of these chapters are conceived in the right spirit, and confer powers which might be made available for much good; but I think it will not be doubted by those who are familiar with such matters, that they stand in need of thorough revision and very considerable extension. The election of the Board of Health belongs, by the law of the State, to the Mobile Medical Society; and in spite of the fact that the functions of this Board have heretofore been more normal than real, I venture to believe that the election has been placed by the Legislature in the proper hands. The Society has been roused to the importance of making the Board of Health as efficient as possible, and have adopted a plan for its reorganization which must add greatly to its usefulness.

The plan in question proceeds on the presumption that the Board of Health ought to be composed of physicians of experience and proved ability; and that the tenure of office should be such as to secure familiarity with the duties and responsibilities of the position, and the adoption of a consistent and permanent policy—a policy not to be controlled by accident, nor changed with every capricious breath of popular, or even of professional, opinion; but which looks to the end from the begining and presses forward towards the accomplishment of definite purposes.

The Board of Health should have general supervision over all matters relating to the health of the city, over quarantine, and the establishment and management of pest-houses and public hospitals; over the streets and yards of the city; over public and private schools, jails, guard-houses, poor-houses and asylums; in a word,

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over every interest of the city in which considerations of the public health are involved; and its power should be ample for the abatement of all nuisances detrimental to the health of the city, and for the direction of all sanitary improvements. But the Board of Health being essentially a deliberative or legislative body, must have means of obtaining information upon which to base its action; and means also of securing the enforcement of its orders. To this end it is necessary that the Board shall have an executive officer and a secretary.

It would be the duty of the secretary to keep a record of the proceedings of the Board, and to attend to its correspondence. He should also have the charge of the registration of deaths and births. This matter of registration is one of more importance than may be evident at first sight. The city government has not failed to recognize, in a general way, that the life of the citizen is very precious to the community; and that no dead body ought to be buried until the cause of death has been ascertained; and has enacted an ordinance to this effect in section 49 of the city code. The object of the law is all that could be desired; but the means provided for its execution have certainly failed of efficiency. Hundreds of deaths stand recorded on the books of the city sexton as having occurred from unknown causes; upon which, nevertheless, no inquest was ever held; and our mortuary records are disgraced and made an everlasting reproach to the profession of the city by the constant occurrence of such causes of death as debility, neuralgia, *in articulo mortis*, old age before sixty years have been reached, and many other causes which all intelligent physicians know to be inadequate to produce any such result. All this ought to be changed; and the proper agency for effecting the change is to make the secretary of the Board of Health registrar of deaths, and to forbid the removal of dead bodies until his certificate has been issued to the sexton. For the discharge of these duties, since they will require daily attendance at the health office, and the consumption of much valuable time, he should receive adequate compensation from the treasury of the city.

The duties of the executive officer of the Board of Health, who is usually known by the title of Health Officer, or Sanitary Superintendent, should be coextensive with the power and jurisdiction of the Board itself. He should be the watchful eye of the Board, to see whatever ought to be done. He should be the articulate voice of the Board, to report whatever is amiss. He should be the strong arm of the Board, to carry its orders into prompt execution. He should report to the Board the appearance in the city of any contagious or infectious disease, and take, under direction of the Board, the measures necessary for its suppression. He should establish a bureau of vaccination. He should attend the meetings of the city boards, whenever required to do so by the Mayor, and fur-

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nish any information needed by them with reference to the sanitary condition of the city. In a word, under the authority of the Board of Health, he should be charged with the sanitary supervision and inspection of the entire city and its dependencies. For the wise and prudent discharge of the duties of this position, a high order of ability is requisite; and as the consumption of time would be large, the compensation allowed ought to be liberal.

The explanation of the comparative inefficiency of the Mobile Board of Health heretofore, is to be found in the fact that it is impossible to accomplish any considerable sanitary work, involving time and trouble and responsibility, without the agency of officers having definite duties to perform, and with proper remuneration for their performance. This is the cardinal defect in our health system which I propose to remedy by the creation of the two offices which I have mentioned. These offices are provided for in the health laws of all the principal cities in this country, and I only propose that Mobile shall imitate their good example.

The permanent executive officers of the Board of Health—that is to say, the health officer and the secretary—ought to be nominated by the board itself. And this for very obvious reasons. The officers of the Board are its agents in the discharge of very delicate and important duties, and if they were in any way inefficient or disagreeable, the difficulties of the Board—already sufficiently great in the nature of things, would be correspondingly increased, and its labors in accomplishing the great work of sanitary reform correspondingly retarded. It is also greatly to be desired that the election of these officers should be withdrawn altogether from the strife and turmoil of local politics. Their functions are in no sense political, but wholly and exclusively scientific, and their usefulness to the city depends entirely on their professional qualification, and not upon that sort of personal popularity which is most likely to command success in popular elections. Let the health officer and the secretary of the Board, then, receive their nominations from the Board, and let these nominations be approved and confirmed either by the Mayor of the city or by the Common Council.

There is another thing which ought not to be overlooked. The tenure of office in these cases ought to be for long periods, say for five years. The reasons for this, also, lie on the surface, and may be easily seen. The duties of these officers being chiefly executive, some practice would be necessary to ensure readiness and efficiency in their discharge. The proper discharge of these duties, also requiring a considerable expenditure of time, would necessarily interfere with opportunities of private practice, and the term of office ought to be extended on this account, so as to counterbalance these disadvantages. I can think of no objection to the plan of long terms of official tenure except that short terms furnish more frequent opportunity for getting rid of bad officers. But this objec-

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tion is really of no force. Bad officers ought not to be tolerated either for long terms or for short. They are always nuisances that ought to be promptly abated. Let them be removed by impeachment. I have no sympathy with that sort of tenderness which would prefer that the public service should suffer wrong rather than that offence should be given to the wrong-doer. The term of office then ought to be five years with privilege of re-election as the prospective reward of able and faithful performance of duty.

For the accommodation of the Board of Health and of the Health Officers connected with it, a Health Office should be fitted up in the municipal buildings, with provision of furniture, light, fuel, stationery and attendance, at the expense of the city.

With a health department organized on the plan which I have indicated, and properly sustained by the civil authorities, it is perfectly safe to assert that the sanitary condition of the city can be very greatly improved. Malaria, and the prolific brood of maladies which it gives rise to, can be driven away from our borders, thus relieving the city of, at least, one-half of all the sickness from which it suffers. I cannot venture to assert so positively that yellow fever can also be permanently kept out, because I have no such positive data upon which to base such a conclusion. But, in my own mind, I am convinced that it can be done, and I have given the reasons for the faith that is in me; and have, also, indicated the means by which I believe this great boon of permanent exemption from the ravages of our great epidemic can be consummated. What I have written, I have written from thorough conviction, and I hope with no inadequate appreciation of the difficulties of the problem which I have undertaken to solve. While I am confident, then, of the ultimate result, I think that it is also a part of my duty to warn the public—which I have sought to convince and to guide in this important matter—that the work to be done is one of great magnitude, and that several years of wisely directed labor and expenditure will be required for its full accomplishment; so that in this matter, as in so many others, we must learn to labor and to wait.

I have shown how our beautiful city may be saved from these epidemic devastations, and although I am no prophet, not even the son of a prophet, yet, standing on the secure vantage ground of sanitary science, I venture nothing to say that hereafter my papers on the public health will be found to be prophetic—prophetic of beneficent results—if the plans which I have indicated are carried into intelligent execution, but prophetic of humiliation and affliction if their warnings are allowed to go unheeded.

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APPENDIX.

Drainage of Towns.

Of late years the subject of the drainage of large cities and towns in England has occupied much of the attention of English engineers and of the Sanitary Department of the Privy Council. The statistics obtained as to the public health of those localities where a thoroughly effective system of drainage has been introduced, conclusively prove the vital importance of the subject. The Medical Officer of the Privy Council, employed in the investigation of the sanitary condition of twenty-five considerable towns in England, to which the new drainage system has been applied, furnishes satisfactory evidence of the subsequent reduction of the rate of mortality in those towns. In some cases, as at Cardiff and Newport, the decrease has not been so great—only from one to two per cent., but in many of the others the reduction has been very considerable. At Merthyr Tydfil it is twenty-one per cent.; at Macelesfield and Croydon twenty per cent. These figures refer to the general mortality, but where there are special causes of death, which are fostered into virulent activity by neglected drainage and sewerage, the beneficial effects of the new sanitary regulations are surprising. In nine towns the diminution in the number of deaths from typhoid fever has exceeded one-half, and in the remaining towns it has been between one-third and one-half. In the case of epidemic cholera that disease has almost been exterminated. In Merthyr Tydfil, during the epidemic of 1848, the cholera carried off 267 persons out of 10,000, but during that of 1866 the number of deaths did not exceed 20. In Salisbury 180 persons died of it in 1848, but only 14 in 1869. In Alnwick the number in 1848 was 205; in 1869, *none*. The Commissioner's report points out the fact that the indirect influence of sanitary works, in properly draining the subsoil, has been more valuable than their direct effect. The laying of main sewers has helped to dry the soil, and thereby to diminish pulmonary complaints; and he mentions several large towns where, in consequence of this drying of the soil, the deaths from consumption have been reduced to one-half their former number. In Leicester, where there was a great reduction in the sub-soil water while the sewage works were in progress, the death rate from consumption subsided forty-one per cent. That it was the sub-soil water which caused the mortality has been proved by the fact that, where impervious pipe

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sewers were used, so that no alteration was made in the level of the sub-soil water, no decrease in mortality has taken place.

It will be observed that this health officer dwells chiefly upon the *drainage of the ground* on which the cities stand, and makes the *sewage* branch of the subject subordinate. He contends that the two ought to be distinct, and that the removal of storm-water and surplus rainfall is of more importance than that of refuse from houses; and that where the two are combined evil results follow. The sewage, in order to be utilized for manure, should be carried off in pervious pipes or conduits, so as to avoid contaminating the subterranean water through which the drainage has to be led; but if flooded with water it loses its fertilizing properties. On the other hand, if it be carried through pervious conduits, so as to drain the water as well, the latter becomes poisoned, fetid and dangerous. He emphatically condemns the London system, which he styles "barbarous hydraulics," whereby the system of flushing forces vast quantities of impure matter into the Thames, and he commends the system adopted at Chelmsford, where the separation of sewage and draining is thoroughly carried out, the storm-water being taken to the river by surface channels and superfluous conduits, and the sewage being conveyed by pipe drains to a pumping station at the lowest part of the town.

The system of water circulation is of such importance to health and comfort that no efforts should be spared to bring it to perfection. In domestic arrangements a vast amount of labor and time is saved by proper water conveniences, and this is no small item of saving, but if in addition to this the sub-soil of dwellings were kept dry, the surplus rain water properly and promptly carried off from roofs and gutters, and the quantity of water in rivers and reservoirs kept up to the full by a well-devised system of conduits, it is evident that much money would be economised, while the public health would be greatly benefited. There is, however, one consideration which ought not to be overlooked, and that is that the removal of the predisposing causes to any particular form of disease—as in the case of consumption above alluded to—may produce a tendency to increase the activity of other disorders, inasmuch as it leaves a greater number of the feebler members of the population exposed to attack. Not merely the work of the sanitary engineer is needed to drive away insidious disease. The care of the intelligent physician will still be necessary, combined with habits of cleanliness and morality on the part of the population.

THE EARTH IMPOVERISHED BY THE SEA.

Paris throws five millions a year into the sea. And this without metaphor. How, and in what manner? day and night. With what object? without any object. With what thought? without

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thinking of it. For what return? for nothing. By means of what organ? by means of its intestine. What is its intestine? its sewer.

Five millions is the most moderate of the approximate figures which the estimates of special science give.

Science, after long experiment, now knows that the most fertilizing and the most effective of manures is that of man. The Chinese, we must say to our shame, knew it before us. No Chinese peasant, Eckeberg tells us, goes to the city without carrying back, at the two ends of his bamboo, two buckets full of what we call filth. Thanks to human fertilization, the earth in China is still as young as in the days of Abraham. Chinese wheat yields a hundred and twenty fold. There is no guano comparable in fertility to the detritus of a capital. A great city is the most powerful of stercoraries. To employ the city to enrich the plain would be a sure success. If our gold is filth, on the other hand our filth is gold.

What is done with this filth, gold? It is swept into the abyss.

We fit out convoys of ships, at great expense, to gather up at the south pole the droppings of petrels and penguins, and the incalculable element of wealth which we have under our own hand, we send to the sea. All the human and animal manure which the world loses, restored to the land instead of being thrown into the water, would suffice to nourish the world.

These heaps of garbage at the corners of the stone blocks, these tumbrils of mire jolting through the streets at night, these horrid scavengers' carts, these fetid streams of subterranean slime which the pavement hides from you, do you know what all this is? It is the flowering meadow, it is the green grass, it is marjoram and thyme and sage, it is game, it is cattle, it is the satisfied low of huge oxen at evening, it is perfumed hay, it is golden corn, it is bread on your table, it is warm blood in your veins, it is health, it is joy, it is life. Thus wills that mysterious creation which is transformation upon earth and transfiguration in heaven.

Put that into the great crucible; your abundance shall spring from it. The nutrition of the plains makes the nourishment of men.

You have the power to throw away this wealth, and to think me ridiculous into the bargain. That will cap the climax of your ignorance.

Statistics show that France, alone, makes a liquidation of a hundred millions every year into the Atlantic from the mouths of her rivers. Mark this: with that hundred millions you might pay a quarter of the expenses of the government. The cleverness of man is such that he prefers to throw this hundred millions into the gutter. It is the very substance of the people which is carried away, here drop by drop, there in floods, by the wretched vomiting of our sewers into the rivers, and the gigantic collection of our rivers into the ocean. Each hiccough of our cloaca costs us a thousand francs.

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From this two results: the land impoverished and the water infected. Hunger rising from the furrow and diseases rising from the river.

It is notorious, for instance, that at this hour the Thames is poisoning London.

As for Paris, it has been necessary within a few years past, to carry most of the mouths of the sewers down the stream below the last bridge.

A double tubular arrangement, provided with valves and sluiceways, sucking up and flowing back, a system of elementary drainage, as simple as the lungs of man, and which is already in full operation in several villages in England, would suffice to bring into our cities the pure water of the fields and send back into our fields the rich water of the cities; and this easy seesaw, the simplest in the world, would retain in our possession the hundred millions thrown away. We are thinking of something else.

The present system does harm in endeavoring to do good. The intention is good, the result is sad. Men think they are purging the city, they are emaciating the population. A sewer is a mistake. When drainage everywhere, with its double function, restoring what it takes away, shall have replaced the sewer, that simple impoverishing washing, then, this being combined with the data of a new social economy, the products of the earth will be increased tenfold, and the problem of misery will be wonderfully dimished. Add the suppression of parasitism, it will be solved.

In the meantime, the public wealth runs off into the river, and the leakage continues. Leakage is the word. Europe is ruining herself in this way by exhaustion.

As for France, we have just named her figure. Now, Paris containing a twenty-fifth of the total French population, and the Parisian guano being the richest of all, we are within the truth in estimating at five millions the portion of Paris in the loss of the hundred millions which France annually throws away. These five millions, employed in aid and in enjoyment, would double the splendor of Paris. The city expends them in cloacæ. So that we may say that the great prodigality of Paris, her marvellous fete, her Beaujon folly, her orgy, her full-handed outpouring of gold, her pageant, her luxury, her magnificence, is her sewer.

It is in this way that, in the blindness of a vicious political economy, we drown and let float down stream and be lost in the depths, the welfare of all. There should be Saint Cloud nettings for the public fortune.

Economically, the fact may be summed up thus: Paris a leaky basket.

Paris, that model city, that pattern of well-formed capitals of which every people endeavors to have a copy, that metropolis of the ideal, that august country of the initiative, of impulse and en-

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terprise, that centre and that abode of mind, that nation city, that hive of the future, that marvellous compound of Babylon and Corinth, from the point of view which we have just indicated, would make a peasant of Fok-ian shrug his shoulders.

Imitate Paris, you will ruin yourself.

POST SCRIPTUM, August, 1871.—It affords me pleasure to be able to say that the Mayor, Aldermen and Common Council of the city of Mobile have approved the views which I have developed in this paper, and have remodeled the Health Department of the city in accordance with the plan upon which I have insisted.

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DISEASES OF MOBILE, FOR THE YEAR 1870.

BY GEO. A KETCHUM, M. D., OF MOBILE.

My distinguished colleague, Dr. F. A. Ross, who had the honor of preparing the report of the diseases of Mobile, read at the last meeting of the Association at Montgomery, used the following expression in the commencement of his report: "The year 1869 will long be remembered as the most healthy in the history of Mobile." Your reporter for 1870 cannot use the same felicitous language in reference to the past year. It might aptly be termed the epidemic year. The terrible work of desolation which disease and death has accomplished during the past twelve months in our midst, will long be remembered as adding another to the dark days of mourning, when our fair city, clad in sackcloth and ashes like Rachael contemplating her offspring, refused to be comforted. Death has stalked through her streets, and entering the mansion of the rich and the hovel of the poor, has, alike from each, demanded his victim. Among those who had been appointed to meet him and do battle at every threshold—those whose daily business it was to contest at every point, and dispute his progress at every step, he remorselessly exacted victim after victim, and our profession has paid the tribute to his demand of seven valuable lives. McCleskey first, then in quick succession Burke, Toxey, I. W. Anderson, Herndon and Coale followed; and now but recently another, who could ill be spared from the high duties that his position imposed upon him, has been called away, and we find the chair which Dr. Robinson Miller filled whenever work was to be done to advance the best interests of our noble profession vacant for ever more.

Looking back over the past twelve months we find in March last, occasional attacks of the epidemic cerebro spinal meningitis, so graphically described in the report of Dr. F. A. Ross. It was the expiring effort, however, of the epidemic form of the disease. Since that time however there has been sporadic cases of it, terminating fatally in the large majority of attacks. The admirable sketch of this epidemic, contained in the paper from the reporter of the Mobile Medical Society, Dr. W. H. Anderson, and referred by the Society to this Association, makes it unnecessary for me to dwell at any great length upon it. In fact, at the date of this report, I could scarcely speak of the continuance of the disease as an epidemic, but as rather an epidemic influence felt not only by producing

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a large number of distinct and violent attacks of the disease, but producing symptoms in many persons who were not seriously ill, but who felt sick, with many of the symptoms of meningitis preponderating, and giving a peculiarity to their attack, borrowed evidently from the epidemic influence of cerebro spinal meningitis; and again, there were others who were taken sick with other and quite dissimilar diseases, which seemed to borrow this new element, and thus fatally, perhaps, complicate the otherwise tractable primary disease.

There was nothing marked or peculiar distinguishing the attacks of the disease this season from those occurring in our midst before. It presented itself in all those varied masks of symptoms, behind which, however, the practiced eye detected the grave and important lesions which are so characteristic, and alarming, as to obscure the complications or epiphenomenon of any other disease.

The attacks were usually of an acute or sudden character, though I saw cases in which they were gradual in their development. The most prominent and characteristic symptoms were those referable to the nervous system. The headache was usually agonizing and deep-seated—usually accompanied with dizziness—often with running in the ears, more or less deafness, and disordered vision—double vision, more or less, or even total blindness was observed. The headache was among the earliest as it was among the most persistent symptoms. Much debility was complained of, and a faint, sinking sensation about the epigastrium—some delirium accompanied many attacks—and disordered intellect manifested by loss of memory, and all degrees of delirium, from the mere momentary forgetfulness to that deep state of mental disturbance, loosing itself eventually in stupor and coma. In fact I saw several cases in which delirium and stupor ushered in the attack, and another case, in which violent convulsions were among the symptoms. Hyperæsthesia of the surface to an extent that rendered the whole body exquisitely sensitive to the touch, was manifested in some cases; and pain in the spine, and a tired weary feeling of the limbs were very constantly complained of. The severe spinal pains were usually associated with a greater or less tendency to retraction of the muscles of the back of the neck with great and permanent rigidity. Usually as the disease advanced the distinctive phenomena of spinal irritation were more and more constantly manifested in the symptoms.

The pupils of the eye varied in shape and size; generally, I think, they were dilated. The pulse too was very variable, at times quicker—small and intermittent—again slow and labored; it was generally extremely weak, feeble and depressed. Nausea and vomiting were frequent initial symptoms—the apetite was usually entirely deficient—a red suffused appearance of the eyes, and a complaint of more or less sore throat, were very often noticed The temperature of the skin was very variable—generally, however, there was but very little heat—and often a coolness of the surface was noticed.

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In many cases there were spots and petechiae noticed, but I saw cases in which I could discover no characteristic eruption.

The duration of the disease was very variable, often in the severer forms the patients dying in from twenty-four hours to the third or fifth day; but some cases were protracted, and I have recently discharged one which pursued a violent course, and had many of the most formidable symptoms of the disease in the fifteenth day of her attack, and even up to this time the sequellæ have not entirely disappeared. She still suffers with dizziness, headache and disordered vision, occasional attacks of neuralgia and impaired hearing.

Post mortem appearances so constantly reveal lesions of the membranes of the great nervous centers, with exudation or deposition of serum, fibrin or pus beneath the membranes, that we feel compelled, taking these facts in connection with the symptoms during life, to regard these local lesions as the essential and almost exclusive manifestations of the disease; but to my mind, in regarding all the phenomena of the disease during life, it is clear that there is another, and perhaps, all-powerful element at work as one of the factors in making up this truly formidable malady; and this is a constitutional element, a morbid condition of the blood. The evidence of this fact is afforded by the epidemic prevalence of the disease, the characteristic eruptions, petechiæ and ecymoses, the extreme debility out of proportion to the evidences of local disease, the suddeness of the seizure, the rate of mortality.

My conclusion, as to the nature of the disease, is that it is the product of some poison—that while it produces a highly septic condition of the blood, produces an astheeic inflammation of the membranes of the brain and spine, and probably of the substratum of the nervous centers, and a rapid exudation of serum, fibrin and pus. The inflammatory or irritant element, and the septic element, are both necessary to constitute the disease; and it is, probably, according to the relative predominance of one or the other of these conditions that modifies so greatly the phenomena presented by the disease, and has modified so greatly the plans of treatment.

The able report and admirable mention of it by Dr. W. H. Anderson, in his paper, read before the Mobile Medical Society, and referred by them to this Association, will supercede the necessity of my speaking more at length concerning this terrible malady, or of my entering more into details.

This epidemic was superceded entirely during April, May and June by a wide-spread and obstinate form of measles. This disease seemed to be of rather an unusual type, in many cases there were glandular swelling about the neck, and peculiar features which it seemed to have borrewed from scarlet fever, the fauces, tonsils, soft palate, etc., were particularly red. with very frequently a peculiar papular eruption spread thickly over their mucous surfaces. Scarcely a case of any severity occurred that did not make much com-

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plaint of sore throat. Obstinate bronchitis accompanied, or followed many attacks, and others again borrowing some features from the epidemics of influenza, pneumonia and cerebro spinal meningitis, which had preceded it in regular order of succession; manifested a remarkable degree of prostration, and a peculiarly dark and confluent appearance of the eruption resembing, in many instances, vibices or patches, such as are noticed in purpura hemorrhagica, as though there lurked in their system some blood poison which had given to all the sickness of this season an asthenic type, and a depraved condition of the vital fluid. The mortality from this disease was unusually large, and the sequellæ, or such as were referable to the lungs and bowels, were obstinate and intractable. During this same period, that is during April, May, and slightly in June, hooping cough was quite prevalent, and often made an ugly complication with attacks of measles. I saw many cases in which the two diseases prevailed at one and the same time; and it is evident that the one aggravated the other to no slight extent, and gave rise to many symptoms which required attentive care and skillful and judicious treatment.

Keeping pace with these various epidemic forms of disease came an epidemic of small pox—cases showing themselves in May, June, and continuing until the hot weather of July and August seemed to destroy the germ or virus. It appeared in all parts of the city, and left its indellible mark on all classes of citizens. As a general rule, it was not of a malignant type, though many aggravated cases occurred which proved fatal, death being preceded by all those symptoms indicating the intense character of the morbid poison. I saw one case, a boy about 12 years of age, who, from the first, was attacked very violently; a profuse, confluent character of eruption, much nervous disturbance, delirium—passing into stupor and entire unconsciousness—and these unfavorable symptoms continuing through the entire career of the disease, up to the twelfth or thirteenth day, when the violence of the symptoms abated and consciousness returned; but he was unable to utter a single articulate sound. It became necessary to teach him to utter sounds and words; by close and unwearied labor he very gradually resumed his power of speech, but to this day his articulation is far from being as good and intelligible as it was before his illness. His convalescence was good and uninterrupted; his mental faculties were uninjured. The epidemic, like all epidemics of small pox in Mobile, was of rather a mild type, the varioloid form being by far the most numerous. Dr. Anderson reports the death of one old man from the confluent variety, who, forty years before, had had an attack which left his face much pitted. I saw a few cases, of a mild form, where the patient had been vaccinated. The hot weather of July and August, and the very general resort to vaccination, stayed its progress. Whilst our city was afflicted by it, it seemed to be but a part of an almost

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universal epidemic. England, France, Spain, were severely scourged by it, and many of the towns and cities of this country were visited in its epidemic form.

The noticeable feature in all these epidemics, as well as a fact observed in many attacks of our usual endemic diseases, occurring both in adults and children, particularly, however, in the bowel affections in children, as was remarked by Dr. Anderson in his report before mentioned, and served as a safe guide to all of our observant physicians in practice, was the evidence constantly afforded of their being all influenced, more or less, by some blood poison, which depressed and prostrated the patient, and gave a gravity to cases that in their usual form did not attach to them.

The diseases of July and early part of August, were our usual summer diseases—malarial fevers, diarrhœa, dysentery, colic, etc., no unusual symptoms of importance being observed, with the exception of the following details furnished me by my friend Dr. W. C. Hicklin:

In compliance with your request, I state the facts in relation to the first four cases of yellow fever that occurred in this city last summer, at least, the first cases to my knowledge, no cases having been reported to the Board of Health prior to the month of September. On the 22d of August Mr. John Otis, age about 62 years, employed at Wm. Otis' mill, was attacked with fever. On the following day I was called to see him; there was not exhibited in his case any of the characteristics of yellow fever until the fifth day of his illness, when he became delirious, skin slightly tinged with yellow, with that peculiar expression of countenance indicative of great pain, and so pathognomonic in the last stages of yellow fever. There was no black vomit ejected by stomach or bowels. He died on the 28th of August. I did not suspect yellow fever until he was in a dying condition. After death his skin assumed a bright lemon color. On the 5th of September John Otis, Jr., was taken sick with all the symptoms characterizing yellow fever well marked. On the 6th of September Mrs. Otis, the mother of John Otis, was violently attacked, and on the 8th of September the daughter was taken down with fever. The last three cases recovered. It was currently reported throughout the city that the case of Mr. Otis, Sr., was contracted from the infected atmosphere arising from the schooner Louisa Wellington, then lying alongside the wharf at Otis' mills, which vessel had come direct from Havana. Upon proper inquiry, I learned that no case of fever had occurred aboard the schooner at any time. She lay in the stream two weeks before coming to the wharf, took in a part of her cargo, then fell down to Dog river, where she completed her load, and sailed for Havana. She entered this port on the 19th August, left for the lower bay on the 10th September, and sailed for Havana on the 11th September. The same crew that brought her here carried her back. The only

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person that left her was the captain, who went to New Orleans; his name was Brown. Some time about the latter part of August I was informed by Dr. Herndon that he had received a message from New Orleans, stating that the captain of the schooner Wellington had died in the Charity Hospital, of yellow fever. I requested the Doctor to write to New Orleans and ascertain the name of the person who had died of yellow fever, reported to be the captain of the schooner Wellington, which he did, but it proved not to be Captain Brown.

From the above statement of facts, it is conclusive to my mind that the schooner above mentioned had no agency in producing the fever in the Otis family.

Yours, respectfully, W. C. HICKLIN.

I need only add that Dr. Hicklin is an old and experienced physician of this place, and is perfectly conversant with yellow fever in all its forms. The next cases that attracted the attention of the physicians were several that occurred in the practice of my colleague, Dr. J. T. Gilmore, an account of which he has kindly furnished me, which is here given in detail:

GEO. A. KETCHUM, M. D.:

Dear Doctor—In response to your request relative to the commencement of our last yellow fever epidemic, I can state the first case that came under my observation, that presented any of the appearances of yellow fever, was a gentleman from Sumter county, this State, who arrived in the city August 28th, to consult me relative to a large chronic abscess situated just below the gluteal region of one of his thighs. In the afternoon of that day I evacuated from it more than a quart of scrofulous pus. On the succeeding day, about 12 A. M., he was taken with a chill, followed by fever that lasted thirty-six hours, and was followed by collapse and black vomit. The paroxysm commenced on the 29th; on the 31st collapse occurred, and more or less black vomit was present during the 31st of August and 1st of September. Death took place in the forenoon of the 2d of September. The body, after death, presented the characteristics of yellow fever. Dr. Gaines attended this case with me, and remarked that if there had been other cases of *fever* in the city he could have no hesitancy in pronouncing it a case of yellow fever, but in the absence of such evidence we concluded that it was a case of pyæmia, the complication so much dreaded in dealing with cold abscesses. The second case that came into my hands was a German girl, at Mr. Isaac Goldsmith's, corner Franklin and Church: saw her Friday, September 16th, at the inception of the attack; fever lasted until Sunday night; she threw up black vomit on Monday, and died on Tuesday. Saturday, the 17th, I was called to see two employees of the N. O. M. T. R. R. Company, on Claiborne between Eslava and Madison; they had been sick for five days when

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first seen; one was throwing up black vomit, the other threw it up the succeeding day; Hiram died the 19th, the one who last threw up the vomit, and Loveling, who was throwing up the vomit when first seen, lasted until the latter part ot the week. After these cases the disease spread so rapidly that in a few days it was pronounced epidemic. I refer you to Assistant Surgeon White, U. S. A., for the history of a case—servant girl of Gen. Reese, U. S. Corps Engineers. I was present at an examination of her body. In the absence of black vomit I could not say positively that it was a death from yellow fever, yet the cadaver and autopsy presented all the required evidence save the vomit. All of the cases detailed were unacclimated; Larkins was just from the country, Hiram and Loveling were recently from the North and had not passed a summer in the city, the *German* girl at J. Goldsmith's had been in the country but a few months; the servant girl at Gen. Reese's, corner St. Emanuel and Eslava, died some eight or ten days before any of my cases, except Larkins, were seen. She was, I believe, from Columbus, Mississippi.

Yours, truly, J. T. GILMORE, M. D.

To go back a little in the record, it is important to state that, commencing about the first week in September, many cases of fever occurred, particularly in the lower or southern part of the city, where miasmatic diseases are most rife, which gave rise to much anxiety in the minds of the practitioners. Several of these cases proved fatal, without, however, manifesting any well-marked symptoms of yellow fever. These attacks, commencing as ordinary intermittent or remittent fever, rapidly assumed a congestive and pernicious type, with symptoms of great nervous disturbance, with much nausea and vomiting and prostration. In fact, all cases of fever looked more threatening, and many anxious fears were expressed by our more observant practitioners on noticing the grave and unusual symptoms grafting themselves on our ordinary malarial fevers. Finally, there occurred cases here and there, principally, however, in the lower part of town, that attacked with an ordinary chill—soon showed signs of extreme prostration, a yellowish hue of skin and eyes, much nausea and vomiting, and on the third or fourth day threw up unmistakable black vomit, and died. None of these cases were in any way connected with the shipping, and none, so far as could be learned, had had any intercourse with the sick. I saw several of the cases of congestive type of fever alluded to, but did not see any case in which I recognized any yellow fever symptoms until the morning of the 18th September, when I was called to see a patient on the corner of Church and Dearborn streets, about a half mile from the shipping, who had been confined nearly one month to his house by a severe attack of dysentery. Soon after I saw him he threw up black vomit and continued to do so during the day, and died that night, his skin and eyes having as-

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sumed a deep lemon color. His residence was quite remote from the localities where other cases had occurred, and I regarded it as one of those cases that showed unmistakably that a new death-dealing poison had fastened itself upon our devoted city—a new element in the atmosphere to bring sickness and death in our community. I saw no other case until the 20th, and during that first day of my observation of the epidemic I was called to ten cases which had sprung up like mushrooms in as many different and widely separated localities. Thus, after two or three weeks of gathering clouds and mutterings of thunder, the storm at last burst upon us in all its fury. Whence came this new infection? How was it spread from place to place, making its appearance in several localities at one and the same time? What nourished and fed this infant germ until, like a mighty giant, it reached forth its capacious arms and clasped the entire community in its foul embrace? How can similar visitations be prevented? These are questions upon the solution of which depends in no small degree the future prosperity of our State's only seaport. These are subjects worthy the earnest investigation of Alabama's brightest intellects.

It would not be becoming or admissible in a paper like this to enter fully into the discussion of these several subjects, or to cite the example of other epidemics occurring at the many localities and on shipboard, which might elucidate any favorite theory or opinion. It is my province to deal only with this epidemic, and extract from it any facts, and put them on record, that may be made useful in future investigations. A short review, then, of the facts connected with some of the earlier cases, and their bearing on subsequent events, will be all that I will attempt, with a statement of some of the peculiarities that marked the progress of the disease.

The attempt was made to establish a connection between the batch of cases that occurred in the Otis family and the arrival at the Otis sawmill of the schooner Louisa Wellington, last from Havana. I will here state, "par parenthesis," that the fever had been prevailing in New Orleans several weeks, and that there was constant daily communication between that city and this by steamboat.

The facts with regard to the Louisa W. are that she arrived at this port on the 19th of August, lay in the stream two weeks before coming to the wharf at the mills, took in a part of her cargo, dropped down to the lower bay on 6th September, and sailed for Havana on the 11th September.

From the time of leaving Havana, up to the time of sailing from this port, no case of sickness had occurred on board, having been in this port from August 19 to September 11.

The residence of the Otis family was nine or ten squares from the mill, and none of the family were nearer than that to the vessel, with the exception of Mr. Otis, Sr., the first case attacked, his dis-

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case not assuming the appearance of yellow fever until the fifth day of his attack.

The next suspicious case was that occurring in the practice of Dr. Gilmore. An invalid, Mr. Larkin, arrived in the city on the 28th of August, from Sumter county. A large chronic abscess was evacuated on the afternoon of that day, on the succeeding day he was taken with chill, followed by fever, which lasted thirty-six hours; to this succeeded collapse, black vomit, and death occurred on the morning of 2d September.

Now this patient did not go near the shipping, had rooms at a remote point from any such focus of infection. He was enfeebled by disease, and his system could offer but little resistance to any atmospheric poison to which he might be exposed. Then followed, in rapid succession, the other cases already detailed, until about the 22d of September, when the epidemic was fully upon us, widespread, destructive, and sweeping all other diseases away from its path.

There is no evidence then connecting the origin of this epidemic with the schooner. L. W. Larkin had died with black vomit, before or about the time she first came up to the wharf at the mills. He was at no time near her, being confined to his room from the time of his arrival in the city to the time of his death. The case I referred to, which after a confinement to his house for a month with dysentery, threw up black vomit, and died on the morning of the 19th, was another case in point where the poison sought him out in his sick chamber, set its seal upon him, and his yellow hue, black vomit, collapse and death, revealed the nature of the stroke that slew, but left no foot-prints to tell whence it came. All the other earlier cases were as completely disconnected with the schooner, as were those referred to. The most notable facts connected with its origin and gradual progress are: First, That just previous to, and during the two or three weeks just preceeding its epidemic form, there was a marked change in the character of the malarial fevers, particularly in those occurring in the Southern portion of the city; these were more frequent, more intractable and more pernicious or malignant in their aspect. Second, The earlier cases of yellow fever, with one or two exceptions, occurred in the Southern portion of the city, and throughout the epidemic that portion of the city was most severely scourged.

The link that seems to connect these two facts is, that that portion of the city is notoriously the most unhealthy district of the city, and the universal medical opinion is that it is rendered so by what is known as the Choctaw Point swamp—a terribly offensive swamp—including many acres of stagnant water, made far more insalubrious by the fact that the nightly scavengers have for a number of years used this as the resceptacle of their filthy loads, whilst the carcasses of dead animals and the refuse and offal of streets and

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lanes and kitchens, have all been deposited here, to undergo decomposition, and to load the atmosphere with the death-dealing poisons evolved.

The prevailing wind, during the summer months, is from the South, and the balmy breeze, fresh from the gulf, sweeps over this pestiferous swamp and strikes that portion of the city which has, with rare exceptions, proved the starting point of our deadly epidemics.

The inferences forced on my mind, from a careful review of all the facts and circumstances connected with this and other epidemic visitations to Mobile, are:

1st. That Mobile is situated in what may be termed the yellow fever zone, and is constantly subject to epidemics of yellow fever, either of domestic or imported origin, so long as her sanitary condition is so bad, and the localizing causes of disease are so multitudinous; and whilst there are climatic and topographical disadvantages which are constantly charged with being the essential causes of the insalubrity of Mobile, still they sink into insignificance when we consider the mighty influence exerted by the *preventable* causes of these diseases.

2d. That insalubrious circumstances that produce a constantly high death rate, and the localizing causes of disease generally, are the most important and the most preventable causes of the epidemics that visit Mobile.

3d. That while these insalubrious circumstances may exist without in themselves producing yellow fever, (though by their influench greatly increasing the death rate), still, should a vessel arrive with those sick of the disease, or a vessel that had had recently a sick crew aboard, it may add the one element lacking to make up the combination necessary for its production, and the poison at once becomes active, and the result may be a malignant and widespread epidemic.

There are facts sufficient on record to prove, beyond a reasonable doubt, the spontaneous development of the fever on ship-board; that a vessel, in bad sanitary condition, from accumulation of filth and combination of deleterious agents, may generate the fever whilst navigating the seas in the yellow fever zone. This fact, proven by the occurrence of undoubted instances, why may we not infer that the like occurrence, in our Southern cities, may always be looked for when a combination of circumstances, necessary for the evolution of the poison, conspire to give it activity.

It is clear to my mind that the poison of this fever is allied, in many respects, to malaria, and observes, to a certain extent, similar laws; it is reasonable to suppose, and indeed many facts in its history proves that it is wafted by the winds, hence it is that the position of this city, nearest to the pestiferous spot of its evolution in the direction of the prevailing winds, would be the first to feel its deleterious influence. It appears in the history of this disease,

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that it scarcely ever prevails at any point that it does not follow that condition of locality favorable for the evolution of the yellow fever poison may not be discovered, and wherever the essential elements are thus found combined for its production, it will, as a general rule, be found that the disease manifests itself first in the direction in which the prevailing winds would waft this aerial poison. We see this fact strikingly illustrated in the vicinity of quarantine grounds, and on board vessels lying in the neighborhood of infected ports, when the crews of those lying to the windward of the locality escape infection, whilst those to leeward soon show the presence of the destroyer.

It would lengthen out this paper to too great an extent, for an occasion like this, to enter fully into a discussion of the question of the domestic origin of this disease, of its source, and of the natnre of its efficient cause, allying it to the malarial endemic fevers of the same locality.

But whilst I admit that "no epidemic, from the dawn of medical history to the present day, has been explained by appreciable and satisfactory causes, except in cases of contagious diseases; and although the causes of yellow fever should never be discussed any more than the causes that produce, on the same soil, a pernicious and a nutritive plant, yet the lessons of philosophy teach that yellow fever has a cause or combination of causes without which it cannot appear; with which it cannot fail to appear, being not the less certain because unknown in the present state of science." Still, viewing the facts connected with the earliest career of this and other epidemics occurring here, and also in other localities, I am led to think they go far to establish a basis for the following conclusions:

1st. That the *materies morbi* of yellow fever is generated in certain localities, where we find a certain combination of circumstances opening to produce it.

2d. That in its nature it is allied to the efficient cause of malarial fevers, yet there is something specific in it which determines this special and distinct type or variety of fevers, this disease, *sui generis*, this independent and distinct malady in cause, in symptoms and in pathological and accustomed characters.

3d. That this cause is developed on ship-board, and in localities where all the favorable circumstances combine to give vitality to it.

4th. That many of the cities and towns of our country are situated in the zone or belt favorable for the evolution of this cause of disease.

5th. As repugnant as it may be to our feelings, we are compelled to admit that the weight of evidence afforded by this epidemic visitation is favorable to the opinion of home origin, and affords no evidence of its importation.

6th. It will not do to make up a settled opinion, however, on this single observation, but it is my design only to add this testimony so

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that the future observer and historian of like events may take it in connection with his own and others' observations.

I feel warranted in drawing the further conclusion from all the facts and information we have on the subject, that there appears to prevail at certain seasons in the yellow fever zone, a disposition to the rapid evolution of the yellow fever poison—what has been termed an epidemic constitution of the atmosphere, which is usually first developed in the neighborhood of low, marshy or humid, insalubrious spots where the efficient causes of malaria are operative, with the addition of elements derived from the existence of animal effluvia exhalations, and sometimes of a large population are subject to the same decomposition. Nor can the occurrence of epidemic manifestations of the disease at longer or shorter intervals between them—and the annual or occasional appearance of sporadic cases during those periods of epidemic repose prove matters of astonishment, since we see that similar events are observed in regard to other fevers, to which yellow fever is closely allied. The causes from which originate our intermittent and remittent fevers are known to reside permanently in a country, yet they do not always operate with the same energy. The morbific cause remains some seasons in an almost quiescent state, and fevers occur comparatively rarely; at another time they exhibit unusual activity, and we have those types of fever very prevalent. Now these facts are also observed in the history of yellow fever.

I will not stop to discuss the questions arising out of the supposed influence of meteorological conditions connected with the development of yellow fever, as those of heat, of humidity, and of electrical states of the atmosphere. In examining the history of the disease, we find that it has prevailed with fearful violence in dry seasons, and arid localities. Here and in New Orleans we are as liable to its invasions in seasons of great humidity. Dr. Craigie, in his Practice of Medicine, makes the following observation on this point, which contains, I think, much that explains many of the paradoxical phenomena that illustrate the history of this disease. He says: "Whatever resemblance there may be in the character of the atmospheric temperature in tropical countries, it is clear that every season is not in an equal degree productive of fever. I have already referred to periods of immunity from fevers in situations in which the disease is an epidemical product; and it has been often remarked that previous to 1793, though sporadic cases were common, and occasional small epidemics appeared on the arrival of a ship of war from the West Indies, most of the islands had enjoyed a period of comparative health, varying from ten to fifteen years. This fact indicates, I conceive, a sort of cycle or periodical revolution in the train of atmospheric phenomena which, at the end of certain periods, assume the same position and combination in regard to each other." And the same noxious and innocuous products, whether

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gaseous, animalcular, organic, crytogamic, or inorganic results, as in the cycle in which the same phenomena were previously observed. It is some such law which governs animated nature, and determines those movements; and which is seen in inanimate nature as well, governing and influencing many of the curious phenomena that the naturalist sees with wonder and speculates on. It appears that yellow fever becomes epidemic neither in consequence of intense temperature alone, nor humidity, nor filth, nor the presence of foul docks and wharves, nor desicated marshes, nor decomposed cabbages, or coffee, or mangoes, nor even charred ships' holds, but in a certain condition of the atmosphere which recurs at very uncertain intervals, and of the recurrence of which the circumstances now enumerated are indications. The rapid decomposition of vegetable and animal matter is to be regarded not as a cause of fever, *but as an effect of the febriferous state of the atmosphere*, which thus displays its insalubrious influence not only on the human race, but in the vegetable world, and on dead animal and vegetable matter. Now in the epidemic under notice, I have failed in tracing it to any exotic origin, and a proper appreciation of the facts in connection with the earlier cases, must leave the impression on the minds of all that the morbid poison was being evolved in our midst, and was active and operative at distant points on those who had had no connection with any shipping or other foreign agent capable of producing it.

"Probably if we would cease to search for the specific cause of yellow fever, and enquire more diligently into the laws which govern the epidemic visitations, adopting the philosopher's plan, who investigates the laws and not the cause of attraction, gravitation, of magnetism or electricity, we would possibly arrive at more satisfactory results, for the truth is, if the causes or efficient properties of certain conditions or combinations of objective matter were known, so that epidemics could be perceived as their necessary effect, with all the certainty of a physical law, it by no means follows that those causes and conditions could be altered or removed so as to prevent epidemics altogether. And from past experience we must admit that to know the phenomenal laws of epidemics, and how to cure the sick, are more within the reach of man than the prevention of epidemics." Yet past experience should not prevent the constant accumulation of facts—should not interfere with our constant attempt at the arrangement and classification of these facts. So that we may, at least, by close observation of the laws which govern epidemics, arrive at an acquaintance with what may prove to be the efficient cause of their production.

We know from the history of this disease that the cause has ceased to be operative in a widely epidemic form in many places that were desolated year after year by its fearful ravages. Philadelphia, for example, in 1793, lost 4,000 of her inhabitants; in 1797 1,000 died; in 1798 5,000 died. The sanitary reform that has been

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put in practice since then has driven away, to a great extent, the sources of its malarial fevers, and good drainage, paved streets and a bountiful supply of good water to supercede the use of well and pump water, which was tainted by percolation from a thousand or more privies which constituted the daily drink of the people, not only as a beverage, but was constantly consumed for various dietetic purposes. Second, to have been active agents in annihilating its former epidemic desolations; vessels arrive there with it, but it obtains no foothold. A more thorough knowledge of the history of the epidemic visitations to many of the cities of the Atlantic seaboard, and the cessation of these attacks with the concurrent facts of their sanitary reform, and the active measures adopted to improve their healthful condition might lead to many facts that might be engrafted with advantage upon the health ordinances of Mobile. My own conviction, from what I have observed from a familiarity with local facts in this connection, for twenty-five years, is that the sanitary condition of our fair city can be improved almost indefinitely, not by establishing rigid quarantine alone; not by looking without her limits altogether for the source of her yellow fever epidemics, but by looking within her own corporate limits for the efficient and active agents operating so constantly to destroy her fair promise for future wealth, population, commerce, and greatness, and by ruining and destroying the combination of causes which, when existing, seem to give energy to the morbid product. What then are the needs of this city to improve its general healthfulness, and to annihilate these ever recurring epidemic visitations? I will merely state them without going into a labored argument to prove them, or to state upon what data I found my views. First.—A plentiful supply of good and wholesome water for all household and domestic purposes, and for public use in cleansing the streets. Second.—An entire abandonment of all well, pump, or drove well water in all the more thickly settled portions of the city. Third.—The enaction and rigid enforcement of laws for insuring cleanliness. Fourth.—The thorough paving of the streets, with a proper system of drainage. Fifth.—The complete renovation of the city front, so that the wharves and ships should no longer be made a net-work in which to catch and hold all the filth that finds its way into the river. The drainage and filling in of ponds and swamps and low places, the conversion of the pestiferous Choctaw swamp into a beautiful and cultivated park. Sixth.—Placing the privies under a rigid police system, so as to procure their proper construction, emptying and cleansing and purification at the proper seasons. Do this, and do it well, and then, perhaps, like Philadelphia, Baltimore, and New York, her shipping may carry her commerce and bring back the fruits and products of all parts of the globe, at all seasons of the year, without the fear of bringing with it the germs of this desolating disease. The seed may be brought, but it will find no congenial

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soil in which to flourish; the conditions necessary for its germination, its growth, and fruition will no longer exist.

Peculiar Characteristics.

There were a few striking peculiarities observed in connection with the past epidemic, and without wearying you with any remarks about its well-known symptomatology, I will just refer to those peculiar features observed the past season.

It appeared almost simultaneously, or in quick succession, at several localities, all more or less distant from the shipping and wharves. Several of the earlier cases were females, all among the unacclimated. Few of mixed blood were attacked during its prevalence, but many native children fell victims to it. In fact, the number of children who had it was a matter of surprise to many of the physicians, and in this connection it is worthy of remark that many more children recovered, after having had the black vomit, than did grown persons after the supervention of the same symptom. There was always, on the second and third days, a great desire expressed for food; this appetite is always a very provoking symptom, for the desire for food always seems to be strongest at that period when it would be most dangerous to indulge it. During the progress of the disease, some time after the subsidence of the fever, there was almost always great complaint of pain in the lower bowels, and generally with this there was paralysis of the bladder for a short time, but it often occurred to such an extent as to make it quite necessary to relieve the patient by the use of the catheter. The mind was generally intact until within a few hours of dissolution, but when delirium did occur it was usually of the character which supervenes upon blood-poisoning. Convulsions were not of frequent occurrence, even in children. The most remarkable feature about this epidemic, however, was the very marked tendency to relapse, and even to have a second attack as late as from two to five weeks after convalescence from the first attack. It has generally been believed that in the way of non-recurrence yellow fever presents a remarkable analogy to the fevers generated by specific miasms. The protection acquired by this extinction of susceptibility has generally been esteemed as guaranteeing acclimation and affording exemption from second attacks. It is well established in the history of all diseases of malarious origin that the liability to their influence is greatly increased by their previous development. Recurrence and relapse is a pathognomonic and striking character in their symptomatology. And by this law of non-recurrence universally admitted to obtain in yellow fever, there is not only a dissimilarity but a species of antagonism to the action of malaria altogether irreconcilable with the hypothesis of a common origin. With these well-known and acknowledged laws familiar to us, we

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recognized this relapsing feature in the past epidemic as something unusual, and as probably showing the influence of malaria in modifying to some extent even the operation of the specific cause of yellow fever, or at least showing its influence running in the system. Another fact that impressed me very forcibly during the prevalence of the disease was the oft-repeated evidence of morbific accumulation. It is true, we find analogies for this in measles, hooping-cough, scarlatina, smallpox, etc., where, in public asylums or hospitals, these several diseases multiply their toxic agency with largely increased fatality. And during the past season there was manifested very strikingly the great increments attributable to this cumulative proclivity observed in maladies universally held to be specific. The practical lesson impressed on me by the observation of these facts was never to allow two yellow fever patients to remain in the same room, and under no circumstances would I permit them to occupy the same bed, and always to insist upon a plentiful supply of fresh air into the apartment.

With regard to the bearing on the sanitary condition of the city, as suggested by the facts and observations which have accumulated for years back, I am satisfied that to a very great extent the remedy against the wide-spread and desolating epidemics of yellow fever here are in our own hands.

Keep the city clean—remove all filth as soon as discovered. These operations must be enforced on a large scale and a thorough plan. A Board of Health with police powers should be created, whose duty should be to inspect private yards and lots as well as public streets; to see that low places are filled up—that privies are emptied at least once in three months, and to see that no filth or nuisances collect about the wharves or under them. Besides all this, the streets should be paved—efficient water works, capable of supplying abundantly with this health-giving fluid all parts of the city, and a system of thorough drainage instituted.

A wise system of sanitary police has done much for other cities; why should not Mobile receive the same advantage?

The fever subsided at once after the appearance of those killing white frosts on the 17th, 18th and 19th of November.

Since the subsidence of the yellow fever in November last the health of the city has not been disturbed by any pestilential disease. There has been almost an entire exemption from any epidemic influence, if we except that of roseola, which has been quite prevalent during February, and has continued until within a week or two. Pulmonary complaints of an acute character have been far less than usual, and the type of all acute diseases has been mild, though usually of an asthenic character.

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SOME REFLECTIONS ON TRISMUS NASCENTIUM,

BY GEO. A. KETCHUM, M. D.

Read before the Mobile Medical Society, July 4, 1871, and by a vote of the Society respectfully referred to the Medical Association of the State.

Trismus Nascentium, I am inclined to believe, is always a traumatic tetanus. Whilst expressing this belief, I am free to confess that I think that other circumstances greatly modify the disease and act as strongly predisposing causes, such as hot weather, foul air, close confined apartments, and too much bed clothing, particularly when applied so as to cover the face and head of the infant.

The attacks usually occur within the first nine or ten days after birth, and I believe may almost universally be attributed to irritation connected with the umbilicus, arising either from too much force exerted on the cord during or after delivery of the child, or from the tying or cutting of the cord, or from an imperfect healing after the cord has dropped off. The latter, I think the most frequent source of the mischief.

All these conditions may be made more frequently operative in producing the result by foul air, close apartments, improper or careless dressing of the umbilicus, and the irritation arising from permitting the dressing to become foul from the urinary and fecal secretions, or from the putrefying cord itself. The greater number of cases of this disease occurring among the negro and poorer classes of large cities, rather than among the more intelligent and cleanly of the white population, and the well-known carelessness of negroes on all matters relating to cleanliness with their children gives additional importance to this view.

The theory proposed by Dr. J. Marion Sims, and published by him in the American Journal of Medical Science in 1846 and 1848, maintained that the proper pathological condition was undue pressure upon the medulla ollingata and the nerves originating from it, by some displacement of the cranial bones, especially of the occipital. He assumes that the occiput is displaced inwardly, with its edges overlapped by those of the parietal bones. This he considers as an ordinary physiological result of the parturient state, and as becoming a pathological condition only by persistence some time

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after birth. Pressure made on the occiput by the position of the infant on its back is a cause of this persistence. The remedy he advises is to restore the bone to its proper position, which may be generally done by placing the infant on its side. I do not think this theory possesses much merit, notwithstanding the high authority from which it originates. Certain it is, I have often noticed this slight inequality or overlapping of the cranial bones, when there was no trismus, and I have seen many cases of trismus when there was no such displacement noticeable, nor have I ever seen any relief afforded the symptoms by persistently keeping the infant on its side, rather than on its back; but in all the cases that I have seen there has been more or less evidence of irritation or inflammation of the investments of the umbilical vessels or of inflammation or ulceration at the umbilicus; and in all such cases there has been a want of proper attention to cleanliness, or the inflamed or ulcerated spot has been fretted by the dressing or the bandage with which infants are made so uncomfortable in obedience to a useless custom which enforces the tight flannel bellyband as one of the first inflictions imposed upon the helpless little one upon its entrance into this world.

Can any rational physician, who has witnessed the usual style of putting this girdle of torture on the screaming and struggling infant, defend its use? If so, upon what grounds? What good office does it fulfil? Again, another practice sprung from ignorance and persisted in because the old grannies and grandmas do as their grannies and grandmas did in the century gone by, and because the enlightened practitioners of the present day do not possess the moral courage to pointedly forbid its continuance, is that of leaving the original dressing on the navel, whatever it may be, sweet oil or lard, goose grease or scorched linen, until the navel falls off. This foul and putrefying mass leaves the umbilicus tender and often inflamed or ulcerated, and then more rancid grease is applied and another tightening of the flannel bellyband, which frets and worries this sensitive point with every inspiration, expansion and movement of the child, and in fact tends not a little to impede the functions of respiration and nutrition.

In carefully regarding all these little minor details, our wonder should be that there are not more cases of trismus nascentium resulting from irritation of the extremity of the nerves—this irritation conveyed, as in ordinary instances from a wound or injury, by the affluent nerves to the medulla and spine, and the spasm resulting from reflex action by the different nerves to the muscles, etc. As in all other cases of traumatic tetanus, the spinal irritation may be set on foot first by the local cause—it soon becomes capable of sustaining itself, and thus necessarily complicates the case and adds to its fatal tendency, and its power to resist the ameliorating effects of remedies.

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When we reflect upon what trifling and insignificant wounds or injuries will often cause tetanus, in the youth or adult, we will have no difficulty in satisfying our minds on the the efficiency of the causes, acting on the umbilicus from the moment of the child's birth until it has completed the first ten or twelve days of its life, in producing on its impressible nervous system a like disturbance, and equally fatal trains of symptoms.

These reflections on this disease, embodying as they do my views of its nature and always dictating my treatment of it for many years past, have been strengthened and confirmed by two cases which have lately fallen under my care:

Case first—A fine, well formed child, born whilst the mother was alone in the room, she having had only two severe labor pains, and not expecting its birth until she had suffered for several hours, fell from her and was suspended by the cord until she could reach her couch; she soon had attention and was safely delivered of the afterbirth. Nothing unusual occurred, the nurse put the usual dressing of olive oil, so called, on scorched linen, and the time-honored flannel belly-band or compressor was pinned around the infant; on the morning of the 7th day, the usual symptoms of trismus first manifested themselves. I saw it first twenty-four hours after. The disease was then fully developed, the spasms returning every fifteen or twenty minutes, and excited by any movement of the child, or by touching it.

I examined the navel and heard the history of its birth. There was a well-marked purple ring around the base of the navel, resembling a bruise, and almost deep enough for extravasation, and a small suppurrating ulcer on its apex. The nurse told me this purple mark was quite plain when she first dressed it, and I suppose it was due to the tension on the cord producing probably a rupture of some of the membranes, or perhaps of a small blood vessel. The child died on the fifth day, after much relief of the symptoms, however, apparently due to the treatment adopted, which I will speak of presently.

Case second—I was called to this case on the evening of June 28, that day completed the ninth since the birth of the child; the symptoms had first manifested themselves that morning, and were gradually getting more and more alarming, until I saw it. The child exhibited the usual well-marked and well-known symptoms; had been unable to move all day, the spasms recurring about every twenty minutes or half hour. I learned there was nothing unusual at its birth. The original dressing of the navel had been kept on until it had become detached, and an irritable ugly sore was the result. Some dressing of the sagefemme in attendance had been applied to it, and when I saw it it was exceedingly angry-looking, dirty, and fretted continually by the bandage, which as usual, was of doubled flannel, tightly pinned. I removed this entirely, had the ulcer well washed and applied an ointment of bismuth, glyce-

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rine and carbolic acid, and removed the bandage entirely, and every thing else that was tight about the child which interfered in any way with its comfort, movements or easy respiration.

In treating these two cases, one occurring soon after the other, I sought for some remedy that held out more promise of relief than those I had usually tried, and in turning over in my mind the different remedies, so highly vaunted at one time and so powerless for good at another, I could think of none that would better fulfil the indications than the chloral hydrate. There were several virtues possessed by this drug, or effects produced by it, that seemed to me to fit it peculiarly for the treatment of this disease:

1st. Deep and prolonged narcotism can be safely produced by it.

2d. During a portion of the period of narcotism there may be complete anaesthesia with absence of reflex actions, and a condition (like that produced by chloroform) in which every movement or operation fails to call forth consciousness.

3d. The hydrate produces muscular relaxation.

4th. The use of it is not attended with the danger of opium, does not produce the unpleasant effects of opium, in fact it is not of itself hazardous as is opium, canabis or calaber bean, etc.

It on the contrary is safe, and yet produces prolonged sleep, removes sensibility, brings down the animal temperature and causes extreme muscular relaxation. It is a powerful sedative of the motor and sensitive nervous system. These results are rapid, manifest and energetic. These effects were all claimed for it by Professor Leibreich, of Berlin, and my experience with it fully satisfies me that he does not claim too much for it.

I gave this remedy in each of these cases; the first I did not see until the symptoms had persisted for twenty-four hours—and this very persistence until the medulla and spine themselves keep up the morbid action, independently of the local cause, at once complicates the case, and renders it much less amenable to treatment; the effect of it was to lengthen the interval between the spasm and produce prolonged sleep and an ability to swallow but not to nurse; it died on the fifth day.

The second I saw about ten or twelve hours after the first manifestations of the disease. I gave it in three grain doses every two hours. After the exhibition of it for twelve hours, it nursed for the first time since its seizure, the sleep was more and more prolonged, the spasms less and less frequent; its bowels were moved by enema, obstinate constipation existing in this case, as it usual does, and the disease yielded. The child nursed more and more freely, and its final recovery was assured; the treatment was commenced on the evening of June 28, 1870, and Sunday afternoon, July 3d, I pronounced it entirely well and ceased my visits. The practical points that I wish to call attention to in this allusion to these cases are:

1st. To regard the claims of injuries inflicted on the cord as the

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exciting cause of trismus. The influence of unwholesome surroundings as the predisposing.

2d. The duty of physicians in discouraging the use of all those appliances connected with the dress of new born infants, which must necessarily produce discomfort, inconvenience and absolute danger.

3d. From the ascertained properties of the chloral hydrate, to call attention to it as a valuable addition to our therapeutic agents in the treatment of this scourge of helpless infancy.

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DISEASES OF MOBILE FOR THE HALF YEAR ENDING JULY 1ST, 1870.

BY WILLIAM H. ANDERSON, M. D., OF MOBILE.

Read before the Mobile Medical Society, and referred by vote of the Society to the State Medical Association.

I was appointed to report on the epidemics of the one-half year ending on July 1st, 1870. As I understand it, these reports are intended only as records of epidemic influences prevailing, and not as full descriptions of such epidemics. Such a description would be valuable, but it would involve much labor, and would be entirely too long to read before the society at one sitting.

The first epidemic, taking precedence in time, that I noticed in Mobile, commenced in December, 1869, and extended through January, and February of 1870. This was an influenza, accompanied by a severe bronchitis, but so far as I noticed, of a sub-acute character. The cases were not inclined to yield to rash treatment, but were protracted, and very exhausting to the patient. I often heard persons remark that they were never so weakened by a severe cold before. In many cases the throat, without being ulcerated, was very sore, and the soreness reaching below the fauces, and not within the reach of the usual gargles. Most of my patients were very much prostrated, and I had to allow stimulants, such as brandy toddy and champagne quite freely; in fact, persons who disliked brandy and whiskey, seemed anxious of their own accord to resort to them, feeling an instinctive desire to use some sort of stimulus. As I do not know the treatment pursued by other physicians, I cannot compare mine with theirs. So far as I can learn from the remarks of others on this epidemic, however, the usual treatment was unsatisfactory. The cases were tedious, and the patients generally convalesced very slowly. It is worthy of remark that several cases that fell under my notice were accompanied by petechiæ quite evident on the inner side of the arms and legs, thus indicating a certain amount of blood poison in the system.

Comparing this with previous epidemics of a like nature, I think it was more like an influenza that prevailed in 1857, than any other that I have seen since that period. The attacks were generally ush-

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ered in by a slight chill, followed up by fever for several days. The fever was a remittent type, rising at night and subsiding during the day, but not distinctly intermittent at any period.

The second epidemic was one of cerebro-spinal meningitis. The cases of this disease were so few in number compared with the population of the city, that it could hardly be dignified with the title of epidemic, and yet that there was an epidemic influence pervading the whole city and affecting the cerebro-spinal system, scarcely admits of a doubt. In perhaps seventy or eighty cases, the influence culminated into an active disease, very violent and exceedingly difficult to manage. The disease, on many occasions, presented itself under different phases. Sometimes the attack commenced with pneumonia, sometimes with what appeared to be bronchitis, when suddenly the breathing became unobstructed, and the brain and upper part of the spine were invaded, and all the symptoms of meningitis became apparent. These symptoms were those usually described in systematic treatises of this disease, namely: pain in the head, generally on the top or back part of the head, of the most excrutiating character, pain that did not seem to intermit, and in some cases not even to remit; flushed face, injected eyes, confusion of intellect, contraction of the spinal muscles, that are inserted into the occipit; often high fever with a tense pulse, but sometimes no acceleration of the pulse; in a majority of cases slight petechiæ, while in some cases the petechiæ were well marked, resembling patches of purpura. Often there was pain and soreness in all the limbs, obscurity of vision, and deafness. The pupil was sometimes contracted, at others dilated, and in the worst case that fell under my observation it was perfectly natural. The pathology of the disease I consider a severe inflammation of the membranes of the brain and spine with effusion of pus. I made no post mortem in this epidemic, but I have made many, or witnessed many, when prosecuting my medical studies, where cases with identically the same symptoms were followed by effusion of pus. I am told also by physicians from the interior who made post mortem examinations of negroes who died of this disease the last spring, that large effusions of sero-purulent fluid were found. It was not unusual to find a certain amount of paralysis in some cases that recovered from the attacks, and I heard of several whose deafness and obscure vision remained after recovery. I am not informed as to the treatment of this terrible plague by the various physicians who met with cases of it. In the majority of cases I suppose no treatment was effectual. Viewing it as an intense inflammation, running rapidly to effusion of pus, I considered calomel and mercurial inunctions pushed to salivation as the sheet anchor. If the case lasted long enough to get under the influence of mercury, the patient generally recovered. I say nothing of the various anodynes, including large doses of quinine that different practitioners administered. From all I could

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learn, cups, leeches and blisters to the temples and nucha were considered of benefit.

I did not see enough of the disease to analyze it thoroughly, or to make up my mind whether any treatment was available in the worst cases. The object of this brief sketch is not to speak of treatment so much as to record the prominent features of the disease.

I mentioned that there was certainly an epidemic influence prevailing extensively in the atmosphere of Mobile, and which occasionally developed itself into actual disease. Our physicians will recollect the great number of persons, particularly adults, who suffered pain in the head, extending down the neck, and following the course of the trapezius muscle. In many cases, perhaps imagination may have had something to do with the pains, but there were a large number forced to go to bed, although they tried to keep up and weather the attack. These cases lead us to believe that if the poison had been more violent, we would have had one of those desolating epidemics which blacken the pages of medical history, and render helpless and despondent the whole community.

The deaths from meningitis amounted to 58.

The third epidemic which I have to notice is that of rubeola. As early as the 20th of January there were a few cases of this disease, and about the last of February it became epidemic and continued so until the 1st of June. I do not remember that any epidemic, since that of yellow fever in 1853, has been so general as this one of measles. From all I can learn very few families where there were young children escaped. The disease in many cases was very severe, and in *some* very peculiar. It was preceded by cough, sneezing, watery eyes, etc., as is usual, but in various children there was for several days only a little redness of the cheeks, leading the family and the physician to believe that there would be no further development. About the fifth or sixth day, however, the eruption broke out fully and was accompanied by the usual symptoms. A large number of the cases, perhaps a majority, were attacked with swelling and redness of the tonsils, and a distinct papular eruption was visible on the soft palate and on the fauces. Indeed, the scarlet appearance of the fauces led me several times to believe that the case was scarlet fever, and I should, perhaps, have continued to think so if one or two skilful practitioners had not told me that they had seen cases ot the same character, and that they were all undoubtedly measles.

I may mention in passing, that the combination of symptoms called by the people *black measles* was seen quite often, and from all I could learn most of such cases died. In one case that came under my notice the spots were as large as my hand and could easily have peen mistaken for the patches of purpura hemorrhagica. The intestinal complications in these cases went further to show the amount of blood-poisoning in the system.

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I am very sure that I met with two cases of measles without any eruption on the face or body, except a very trifling breaking out around the neck, the latter having the appearance of very mild prurio. In both of these children the prodromes of measles were well marked—cough, fever, sneezing, watery eyes, etc.—and both of them had a distinct eruption on the fauces, with highly injected and slightly swollen tonsils and uvulata. These cases occurred when other children in the same family had the disease with all its symptoms, and I cannot help thinking that they were true measles. Analogy corroborates such an opinion, for many authors have witnessed varioloid of quite a severe type without any eruption at all, and mention is made of cases where only one or two pustules could be found, and they were on the back or legs. In 1865 two such cases came under my notice in Mobile.

Before leaving the subject of measles, I may mention that there were a limited number of cases of suppressed measles and recurrent measles, nearly all of which proved fatal.

The mortuary record of the epidemic was quite large, but still not larger than one would expect among such a number of cases. The deaths did not probably amount to more than 1½ or 2 per cent. of the cases, which is a very small mortality. Still a great many cases were very severe, requiring active and skilful treatment on the part of the physician. Even at this date, when the epidemic is over, children are still dying with the sequelæ of the disease.

Deaths by measles, 28.

I have to record still another epidemic, viz: hooping-cough. Occasional cases of this complaint were met with in January and February, and it went on to increase in number until May, when it appeared evidently to decline. In April the largest number of cases prevailed. I know of nothing special to note in its course or treatment. Prevailing while measles was still largely in the atmosphere, the two diseases in a few cases appeared in the same patient at the same time. The measles went through its regular train of symptoms and left the hooping-cough behind to continue its march. Such cases were aggravated, and several weakly children succumbed under the effects of the double disease. Leaving these cases out of account, I think the hooping-cough did not, as a general rule, assume a bad type. Upon inquiry, I learn that the average length of the disease was about seventy days. I saw several cases when the whoop was quite noticeable during the fourth month.

In the order of sequence I now take up the subject of smallpox. Early in June the Board of Health hardly considered this disease epidemic, but as there are still new cases occurring I think it may be looked upon, so far as regards numbers, of an epidemic character. The type is evidently a mild one—many cases, even in young unvaccinated children, being of the discreet character, and recover-

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ing without pitting. I do not recollect ever to have heard of so many mild cases occurring in the unvaccinated. Smallpox attacking a young child, who had never been shielded with the prophylaxis of vaccination, is generally considered a fatal disease. Forty per cent. of such cases is not a large mortality, and yet I do not think that twenty per cent. of such children died during our late epidemic. Having seen a good deal of the disease in high northern latitudes, I have been struck with its mildness in the more southern parts of the temperate regions. In Mobile particularly, since 1850, every epidemic has been of a mild type, although during that period a large number have been attacked. During the late epidemic several very old persons died of varioloid, and I knew of one patient to die of genuine smallpox, who had had the disease forty years before in the confluent shape, and carried deep pits on his face as a consequence of it. Such cases, however, have been often recorded.

When I say that smallpox has been epidemic, I include the cases of varioloid that we have met with, for these make up by far the larger number of cases that have occurred. It is quite probable that there would have been an extensive outbreak of the disease, if vaccination had not been resorted to by a large number of the population. As is usual, the vaccine disease took, in many instances, and thus prevented the spread of true variola. Deaths 28.

The year 1870 seems to be a smallpox year. In England it has been more general than usual. In two of the cities of France the victims may be counted by thousands. In Spain there has been a great deal of it, without being considered an epidemic. In the East the number of cases have been beyond the average. In our own country, New York, Boston and Philadelphia, on the sea board, and Chicago and St. Louis in the interior, have been visited with the pest, and in New Orleans the epidemic has been severe and fatal. It was estimated that in March and April there were 4000 cases at one time in our sister city.

As regards Mobile, there has certainly been an element of *blood-poisoning* in nearly all of our cases of disease since early in January. It was noticed in the influenza of the early winter by several of our most astute practioners. It became more evident when the city was invaded by meningitis. It still showed its disposition to hang on during the prevalence of measles, hooping cough and smallpox, and it lingers yet and complicates cases of bloody dysentery in adults and children. Having my attention called to it early in the season, I have noticed it in the sequelæ and complications of other diseases. I have seen healthy children droop under the influence of some unrecognizable trouble in the system—the same children in a few days have dark spots on the cutis vera, and wind up with swelling of the glands in the neck. I must attribute to this influence the pertinacity with which bowel disease of young children

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seem to hang on, and a sort of mall aise which many adults have complained of.

Guided by this idea I have, after being foiled in my usual treatment, added creosote to my prescriptions for bowel complaints in grown persons and children, and I have generally seen marked improvement after the addition of this antisceptic. I am quite sure, indeed, that the exhibition of carbolic acid assisted in the cure of a case of bloody dysentery that I was treating.

This blood-poisoning element, whatever it might be, has lurked about Mobile for six months past, and not only showed itself in the shape of the various epidemics I have alluded to, but it has complicated a large number of cases which would have been much more easily treated, if the state of the atmosphere had been more pure.

I close this report, Mr. President, with the remark that I know it to be very imperfect. I cannot plead want of time or want of inclination in preparing it. I have had enough of both, but I did not deem it necessary to mention any thing but the fact, that there had been such and such epidemics, and to record the striking peculiarities of each. I saw no good result from giving a detailed account of symptoms, or from going to any extent into the pathology of the various diseases. This would have been tedious, and would not have come within the scope of these reports, as I regard their intention. As I look upon them, they are intended only to rescue from oblivion important facts connected with the medical history of our city, with the hope that at some day or other a recurrence to them may be of some benefit either to science or to humanity.

With regard to the loose manner in which, amid the distractions of every day life of a physician, I have grouped the various subjects together, I ask your indulgence. But as far as respects the facts that I have stated, I may have been unconsciously in error, and here I invite criticism, in order that the report may be as correct as possible.

Case of Paralysis of the Crico-Arytenoid Muscles.

I was called to visit a child about two years of age, who, being perfectly well a few hours before I saw it, was suddenly taken with a convulsion, which went off in about twenty minutes, leaving behind it a great difficulty of breathing. The intellect was clear. There was little fever; pulse slightly accelerated; no difficulty of swallowing, and nothing comparatively the matter except a difficulty in respiration, and this trouble seemed confined to the larynx. Inspection of the throat internally showed no obstruction. The patient vomited what it had eaten, and had a natural discharge from the bowels. The diagnosis of the case puzzled me. The attack was so sudden and the child so healthy before it, yet in the space of a few minutes it was prostrate, with rather difficult articulation, and

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a respiratory trouble which if not shortly relieved must prove fatal. I was satisfied that there was a nervous lesion, but *where* was the origin of it? Was it in the brain, or in the extremity of the laryngial nerves? I examined the nucha carefully, but found no tenderness. It was above the origin of the diaphragmatic nerve, because the diaphragmatic contractions were good enough. The chest, too, expanded *laterally*, which showed the intercostals to be intact. It was below the tubercula quadregemina, because the vision was perfect. It was even below the tuber annulare, because volition and consciousness of pain, independent of intellectual action, seemed to be natural. Hence the ganglionic centre of the tuber annulare was performing its functions naturally. It occurred to me then, that it must be a trouble of some sort about that portion of the medulla that presides over breathing, and yet breathing in the main seemed to be good; it was only in the larynx or in the glottis that it was deficient, and there it was of a wheezing character.

Now, you will remember that the pneumogastric nerve gives off four principal branches. The inferior laryngeal is one of these branches, and this nerve supplies the posterior crico arytenoid muscles. These muscles preside over the movement of the vocal cords, and when they are paralyzed the cords become lax and interfere seriously with the efforts of respiration. This was exactly the state of my patient. She presented the appearance of a dog in which the inferior laryngeal nerves were divided. There was the same ineffectual inspiration, a part of the air going into the chest, but a part driven back by the *expiratory* effort.

The pneumogastric is a sensitive nerve, and neither it nor its branches have any motor influence, coming from its own origin, namely, the ganglion of the restiform process; but it gets sensitive fibres from the facial, the sublingual, and the first and second cervical nerves, and I am forced to believe that during the spasm of the child, which probably was caused by a slight chill, there was a congestion of the medulla oblongata, limited to a very small point, which caused all the difficulty. Why was not the voice, then, entirely stopped? Why, simply because the *spinal accessory* is the nerve which sends to the pneumogastric the motor filaments which preside over the muscles forming the voice, and the spinal accessory arises principally from the nervous substance included in the cervical vertebræ.

The remedies were hopeless, although, regarding it a congestion, I drew a rapid blister at the base of the occiput. This had no effect, and the child died in a few hours, purely, I believe, because the blood was not properly decarbonized, on account of the difficulty of inspiration, which at every breath was ineffectual.

I mention this case, gentlemen, because it illustrates a physiological phenomenon, which is very interesting to those curious in tracing up the effect of the nerves on disease, and I have written it out so that any member may follow out the rationale if he feels so disposed.

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DISEASES OF WOMEN IN THE CITY OF MOBILE,

FOR THE FIRST HALF OF THE YEAR 1870.

BY E. P. GAINES, M. D., OF MOBILE.

Your reporter on "Diseases of Women," would beg leave to report that the women of Mobile are peculiarly prone to uterine diseases. This fact, I think, will be admitted by the general practitioner; the question naturally occurs: what can be the cause? It is undoubtedly climatic. Such being the case, it behooves us to be very strict with our patients after miscarriages, abortions, and even after parturition.* I am satisfied that we ought to compel our patients to keep the couch for fifteen days, instead of nine, the time recommended by authors who live in colder climates. Your reporter thinks there is wisdom in the division of uterine diseases, adopted by Dr. T. Gaillard Thomas, to wit: *endometritis*, first, cervical; second, corporeal. *Metritis*, first, cervical; second, corporeal, and agrees with him in the following propositions:

1st. The cervix is much more frequently affected by inflammation than the body of the uterus. This was first insisted upon by Dr. Bennett, and its substantiation constitutes the marked feature of his work on the uterus.

2d. Metritis, whether cervical or corporeal, is generally the result of parturition or abortion.

3d. In their acute forms, both the mucous and parenchymatous varieties are apt to invade the whole of the structure first affected, but in their chronic forms this is not so; the body or the neck may be alone effected for years. In the one case the morbid process not coming down below the *os internum*, and in the other, not ascending above it, (p. 191, 1st Ed.) Cervical-endo metritis, which your reporter has found to follow, and to be caused by a miscarriage, oftener than from any other cause, (and he has taken especial pains always to enquire) he has found nearly always curable by nitrate of

* In pregnancy the mucous membrane is thrown off entire, *utricular follicles and all;* and, what is very important in connection with uterine catarrh, the mucous membrane, after pregnancy is not *re-formed under two months.* Moreover, if a morbid state should follow pregnancy, by which chronic engorgement or inflammatory action should be set up, the mucous membrane *does not re-form at all;* its surface may continue denuded, its blood vessels exposed and pouring out unhealthy secretions, thus constituting a bad form of endometritis. Hence it is that so large a proportion of the cases of this disease follow parturition or abortions, and that this class is so difficult to cure.—[*Nott, in New York Medical Journal, June*, 1870, *page* 340.

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silver, and he believes it very important that this valuable remedy should be used properly. When he first read Dr. Meigs' remarks on the destructive and the antiphlogistic touches of the nitrate of silver, he was inclined to smile, but experience has proven the wisdom of this most excellent physician. They are worth quoting in full. Meigs on the diseases of the uterus, p. 53.—"It is undeniable that a pencil of nitrate of silver applied to a soft, moist, living tissue, and held long enough in contact with it, will disengorge the tissue and so prove to be a destructive caustic. It is equally undeniable that a contact may be effected with such rapidity and lightness as to prove ineffective or indifferent. While there is another mode or force which does resolve inflammations with great certainty, and this is the antiphlogistic contact above spoken of, we, therefore, feel warranted to speak of such use of the nitrate of silver, as being either destructive, indifferent or antiphlogistic contacts; and experience confirms the propriety of this classification, for we meet with numerous examples of treatment that conclusively proves it is not the mere treatment by escharotics that is successful, but the use of them in such a way as to provide for their due operation as antiphlogistic, and not as destructive, for as any ulceration of the mouth of the womb is a thing of very rare occurrence, we do not require in the cure the use of destructive contacts of the salt of silver and other escharotics, but only their curative or antiphlogistic power—a power which is really due to their contra-stimulant faculty. Certain women who are in vain treated for the cervix inflammations for months in succession, by contact of nitrate of silver, recover their health very speedily upon a few such antiphlogistic or contra-stimulant touches lightly made with due regard to the resolvent and antiphlogistic power of the drug." It is but the other day I put a part of this practice into execution. A lady who had had a miscarriage some two weeks previous, suffering from great pain in the uterine region, accompanied with fever, sent for me. I gave mercurials, opiates, used warm injections, poultices, etc. After the fever was subdued the pain continued. I told her that in similar cases on examination I had discovered ulceration, and by the application of nitrate of silver I had relieved the pain and cured the inflammation. She consented to the examination, and I detected the womb low down, swollen, turgid, mouth patulous so that I could pass a large sound: the parts had a boggy feel, a granular appearance, and the granulations bled freely on pressure. In this case I took the solid stick and pushed it up as far as I could, and held it there, so that by its destructive action it could destroy these exuberant granulations. The relief to the pain was very great, and I would advise the Fellows, where there is great and persistent pain, to use the speculum and apply the nitrate of silver, because it will relieve the pain when opiates and blisters signally fail; but I seldom

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use greater strength than forty grains to the ounce, and I generally apply this on cotton wrapped around a small probe. When I cannot get into the cervix well I dilate the neck with sponge tents. There is one caution in the distributive use of this agent—always, during the healing process, and for some time afterwards, use the sound or bougie, so as to prevent and overcome the contraction that always ensues.

Your reporter used injections into the uterus in two cases of chronic endometritis. In one, an old lady, about the change of life, had a constant discharge, which could be seen oozing from the mouth of the uterus; the constitution sympathized much, and I feared some malignant action might set in. In this case I injected a solution of iodine well up into the cavity of the body; I am satisfied that I injected too much at a time; it gave intense pain, and I was compelled to use chloroform and morphine to relieve it. It was followed by such good results that I ventured to repeat it, and it made a permanent cure. This was done June two years ago, and she is now in perfect health. According to Dr. Nott, in his article on intra uterine medication (New York Medical Journal, p. 344), "In multiparæ the uterus is a fraction larger and more globular than in the virgin, but the difference, in internal capacity, is insignificant. According to Bennett, Courty, and others, the cavity of the normal virgin uterus, when distended, is not more than ten to twelve minims, and when not distended artificially, or by the menstrual flow, no *open cavity* presents, the two walls being in immediate contact. In uterine catarrh it may be increased to a drachm or two, and if retroflexion exist several drachms more. In cases of polypi and fibroids, in menorrhagia, after abortions and labors, the capacity may be more or less increased." I used iodine because I had read of some experiments by Dr. Noeggerath, of New York, on the use of different substances injected into the uterus, in which he came to the conclusion that preparations of iodine were the safest. In Dr. Nott's article that I have just read, he says "not only are the weak solutions of iodine usually well borne by the uterus, but except in certain morbid conditions where extraordinary sensibility exists and where the touch of the probe or medication of any kind is not tolerated, I repeat that, leaving out these exceptional cases, and also those in which pelvic complications exist, even the undiluted Churchill's tincture may generally be employed, and with marked benefit, either in chronic menorrhagia or chronic catarrh. It will be well borne when even the most cautious use of nitrate of silver or chromic acid is inadmissible. It is worthy of remark, too, that of all the articles used in intra-uterine medication the preparations of iodine have commanded the most general confidence, and I think justly. Iodine is something more than an astringent, or stimulant, or caustic; it is a remedy, *sui generis*, possessing peculiar specific action which cannot be explained. When given internally it passes into

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the circulation and exerts a positive curative influence over scrofula, syphilis, neuralgia, visceral engorgements and other morbid conditions; when applied locally the evidences of its curative influences are no less marked, viz: in cutaneous affections and ulcers, in chronic abscesses and fistulas, in superficial glandular swellings." Dr. Nott goes on to say—"Not only does iodine modify the mucous surface of the uterus when introduced, but may here be asorbed, as elsewhere, and produce an alterative action in the parenchyma of the organ." (p. 57, N. Y. Journal of Obstetrics.)

Dr. Parvin, in an excellent article on uterine hyperæmia and its treatment, published in the June number of the Practitioner for this year, a journal published in Louisville, says: "After well dilating the cervix with sponge tents, the next step is the application of a strong tincture of iodine, by means of a piece of cotton wrapped around a probe dipped in the solution and applied freely once or twice to the interior of the uterus. Sometimes a hæmorrhage follows this application, but I have never seen it severe, often not half so great as the flow of one of the patients' ordinary periods, more frequently a rather copious opaque discharge which in a few days is succeeded by the ordinary transparent flow of hypersecretion of the glands of the cervix and body."

In the second case, a young married woman who had a most obstinate endometritis, I injected nitrate of silver, I do not remember the strength. In a very short time most intense pain and collapse set in; she said she was dying. She was cold and nearly pulseless, features pinched and had every apearance of a dying woman. It was fully half an hour before the pain was relieved and reaction induced. I was so alarmed as to call in assistance, and Dr. Miller, our worthy President, saw her with me. Opiates and stimulants brought her through it; but it is the last time that I have used injections into the cavity of the body. Dr. Nott says: "About twenty years ago I injected a five grain solution of nitrate of silver into the uterus, and was so near killing my patient that I have never tried it since." He goes on to say: "What is remarkable is the fact that nitrate of silver, applied to the cavity of the womb in the solid form, either by porte-caustic or lentes, uterine syringe does not produce symptoms of equal intensity, although occasionally severe."—[*Obstet. Journal, page 54.*

In an obstinate and persistent case of menorrhagia, I proposed an examination, which, being agreed to, I discovered a granular condition of the os and cervix, from which the blood trickled in considerable quantities. Sponge tents dilated the os and cervix well, and showed the same condition of things extending up as high as the fundus. The pathology of this was inflammation, whereby the whole of the epithelium was destroyed, leaving the turgid and vascular papillæ, which were also hypertrophied, exposed and giving that appearance which has been termed granular; wiping out

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the womb carefully with cotton, I then carefully touched it with equal parts of chromic acid and water, and after leaving it in contact with the diseased parts for a short time, carefully wiped out all superfluous fluid with some dry cotton. Three such applications made a permanent cure. I also put my patient upon the internal use of that exellent English combination, sulphate of iron, sulphate of magnesia, elixir vitriol, syrup and water. All patients do not bear local treatment equally well. In some the nervous system is so much fretted it throws them into fever; they lose their appetite, grow thin, and waste away. Sometimes a judicious constitutional treatment will allow you to continue the local treatment, but oftentimes you will have to desist, and sometimes even to send your patients away to get the good effects of the country air. The medicines found most efficacious are bromide of potass. to relieve pain and congestion; to quiet the manifold nervous symptoms. At the same time I am satisfied that this medicine is used too often and too long continued. I am satisfied that its long continued use produces spanæmia. It also produces some paralytic symytoms as shown by difficulty of speech and locomotion. This might be expected from a medicine that is classed by our therapeutists as a spinal sedative. In ovarian pain, supposed to be due to congestion, I have been very much pleased with the action of muriate of ammonia in connection with the tincture of aconite; it certainly relieves the pain, and must do so by relieving the congestion. When fever follows the topical means used, I have been very much pleased with the effects of belladonna and quinine. As a tonic in these cases I know of nothing better than the syrup of the phosphates of quinine, iron, and strychnine. When we use sponge tents, we ought to be satisfied that there is no acuteness about the inflammation; we ought also to make our patients keep the recumbent posture until it is removed; we ought also to direct our patients to remove the tent before our return, if it gives much pain; and the tents ought not to be followed up in quick succession. Dr. Thomas reports a death, caused from peritonitis, in the practice of another physician, and in three others knew of peri-uterine cellulitis thus produced. One of the Fellows, a young practitioner, had the courage to report a fatal case from this cause, and your reporter had a patient in whom peri-uterine cellulitis was induced by the introduction of two tents in quick succession.

In regard to the anti-versions and retro-versions, anti-flexions and retro-flexions, the great question is, are they recent (acute) or old (chronic). If recent, they nearly always have inflammation for a cause. Cure the inflammation and you cure the disease. It was but a short time ago I went to see a lady whom I had been treating for a long time for cervical endo-metritis, complicated with retro-version. I had once or twice thought that she was sufficiently well to have the womb replaced, and introduced Hodge's closed pessary,

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but the tenderness was so great that she could not wear it long. I therefore continued my antiphlogistic touches of nitrate of silver to the internal cavity of the neck, and when she got better stopped all local treatment, and placed her on tonics, to-wit: the syrup of the phosphates of iron, quinine, and strychnine. Learning that her general health had improved, I went prepared with Gardiner's redressor, (which you can use through the speculum,) to replace the uterus, and introduce the pessary, but was agreeably surprised to find the uterus normal in size, and in its proper position.

Dr. Miller, of Louisville, Kentucky, in his work on obstetrics (pp. 233, 934), says: "After I had discarded the use of pessaries in the treatment of endometritis, complicated with retroversion, I was led to conjoin repeated replacements of the uterus by the sound and cauterization of its cavity, whilst the organ is in situ, and by this method of treatment, which I may venture to call my own, have obtained more satisfactory results than by all other methods which I had previously tried." In the chronic cases, however, we have the mechanical trouble, and this must be dealt with accordingly. If version, by suitable pessaries; if retro-version, I prefer Hodge'sclosed lever pessary. For acute version I have found more benefit from Hodge's open-lever pessary; and I tried this on the recommendation of the late Dr. Gordon, who, as you well know, was so skilled in the treatment of all the diseases peculiar to females. In a troublesome case of retro-version I used a ——— pessary with marked benefit. In the flexions I recommend the knife. In one case of a lady who had been long married and had never borne children, and who hoped very much to become a mother, as she had not passed the time for menstruating, after giving Dr. Fenner's great remedy, the tincture of antacrida, a fair trial, I proposed an examination. The womb was found perfectly healthy, and so was the cervix, but on introducing Emmet's flexible sound I discovered complete anteflexion. I told her nothing would relieve her but an operation; she consented, and Dr. Gilmore performed the operation, and at the end of three or four days I commenced using the sound. After introducing it I generally inserted a little cotton dipped in a solution of tannin and glycerine. She made a fine recovery and has since become pregnant. Dr. Gilmore mentioned the case in his report of the Surgery of Mobile for the year 1869.

A very interesting case of sub-involution of the uterus, after delivery, occurred in your reporter's practice this year. A strong, healthy, hearty young woman had a good delivery of her first child. The customary number of visits after delivery were made, and she was left doing well. At the end of a week I was called in on account of her unusual size. She seemed as large as she was at eight months, and on pressing over the abdomen the womb was found much enlarged and a little tender; bowels very constipated. On inquiry, learned that the lochiæ had stopped some days ago rather

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suddenly. Her bowels were kept open with blue mass and colocynth, and she was put upon the use of iodide of potassa and syrup of stillingia.

After a week's perseverance with this treatment, and no amendment whatever, she remaining as large as ever, I consultuted Simpson on diseases of women—at sub-involution, page 162—and treated the case accordingly, that is to say, applied a blister over the lower part of the abdomen, and put her upon the bromide of potassa. The recovery was rapid and permanent. Dr. Simpson says: "I used at one time to rely chiefly on the administration of the iodide of potassium, but of late I have employed the bromide much more extensively, for it has this advantage over the former salt that its use may be kept up almost any length of time by a patient without her becoming subject to that kind of marasmus which we sometimes find attendant on the prolonged use of the iodide. The bromide of potassium may not only be given with safety for a lengthened period, but it may be administered with confidence as a good tonic, as well as perhaps the best substitute in the pharmacopœia. It may be depended upon as an active stimulant to absorption, besides possessing the property beyond all other remedies that I know of in acting as a special sedative to the reproductive organs. In cases of this kind you must administer it in larger doses than usual, making the patient take six, eight or ten grains three times a day." We all agree with Dr. Simpson, that it is a good deobstruent, and that it is a spinal sedative on the reproductive organs, but we are not so enthusiastic as to call it a tonic. On the contrary, as we have said before, it is such a sedative that its long continued use has a paralyzing influence on the muscular system. As your reporter has to read another report this year on the same subject, he will defer any further remarks for his future report. In the mean time he begs of the Fellows to take notes of interesting cases on this subject, and he will be happy to present them to the society. So far, he has nothing but his own limited experience to draw upon, and he has tried to illustrate this by referring to the cotemporaneous literature on this subject, which indeed is so very copious that one does not know where to stop collating.

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REPORTS

FROM THE COUNTY OF MONTGOMERY.

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DISEASES OF THE CITY OF MONTGOMERY.

BY J. S. WEATHERLY, M. D., OF MONTGOMERY.

Whilst a more than ordinary amount of sickness, for the city of Montgomery, has occurred within the past year, estimating from the first of March, 1870, nothing of especial interest, either as relating to the prevalence of particular diseases—whether sporadic or epidemic (cerebro spinal meningitis exeepted)—or to novelties in therapeutics, is to be reported.

The various reports of the past, to medical bodies and journals, render unnecessary, it is thought, any additional description of the physical peculiarities of our city, as calculated to affect its sanitary condition. It is sufficient to say, that not many interior places of its size exhibit fewer manifest causes of disease or possess better natural facilities for drainage, the *sine qua non* of health to communities.

Viewed from the Alabama river—around the point of an abrupt and bold bend of which it is situated—the town presents the figure of a semicircle, suggesting in the almost imperceptible slope of the foreground and gradual ascent of the hills beyond, reaching nearly to the river's bluffs on either side, the half section of an immense amphitheatre. Nor have these advantages, derived from nature, been neglected, as evidenced in the capacity and efficiency of its drainage.

There exists, however, one obvious and fertile source of disease, which, by its noxious exhalations, not only renders the otherwise most picturesque and desirable portion of our city, hazardous to residents and consequently less sought for, but is, besides, the undoubted cause of eight-tenths of the malarious sickness incident to the more popular and populous districts. I allude to a large and permanent body of water, situated immediately beyond the northeastern limits of the city, and known as the Cypress Pond—stagnant during the summer and fall months, and covering an area of little less than a square mile. The drainage of this pond—this nursery of fevers—was feebly and therefore unsuccessfully attempted a few years ago. That it is practicable, is certain, and at a probable cost insignificant when compared with the advantages to result from its accomplishment, in a vastly improved sanitary condition of the whole city, and an enhanced value of the real estate contiguous to or near the source of evil. It is to be hoped that aldermanic pride—ex-

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pressed in costly public buildings now in process of construction—having been gratified, that a reasonable portion of the city's revenue may be applied to this object, which at present is of apparent unimportance.

From statistics supplied by the Register of Interments, and presented here in tabular form, it appears that rubeola and pneumonia constituted together nearly one-half of the fatal cases of known diseases which occurred in the city during the month of March, 1870. In justice to our profession, however, I deem it proper to explain, that though in burial certificates, attributed to the two diseases respectively as distinct causes, it is quite certain that in nearly every instance death was the result of the conjoined operation of both—the latter intervening or following close upon the former. The not infrequent fatal effect of such complication is too well known to require more than mention.

In April the same causes, reinforced by sixteen cases of cerebro spinal meningitis, account for about the same proportion of our monthly mortality.

May shows the largest number of fatal cases during the year under consideration—sixty-nine. And in this enumeration the tracks of measles and pneumonia are still manifest. In the meantime meningitis, though abating, is still regarded as epidemic, and adds ten to the sexton's list.

June discloses a marked and abrupt falling off, and at the same time indicates negatively the reason for it. No measles, though three fatal cases of pneumonia, are reported—the latter, as before, doubtless attendant on the former. We remark, also, in this month, the disappearance of meningitis, but one instance of death being attributed to it. In the place of the above diseases, bowel ailments—principally with teething children—under the various forms and names of diarrhœa, cholera infantum and dentition, become conspicuous.

July exhibits a still further decrease of mortality, and with its thirty-seven deaths presents a striking contrast with May's sixty-nine, occupying, as it were, the sanitary ridge between our vernal sickness on the one side and autumnal malaria on the other. With the exception of one, perhaps two cases of meningitis (regarding, as I am disposed to do, the reported fatal case of congestion of the brain as such), the interments this month indicate nothing in addition to the ordinary summer diseases.

In August, remittent, pernicious and typhoid fevers preponderate, and we remark an increase in mortality of fifteen upon the preceding month.

September, as might naturally be expected, is, to a considerable extent, a repetition of August, and this, not only in the general character of the fatal diseases, but likewise in the number of deaths.

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And in October, also, we perceive that, exclusive of "unknown," "stillborn," and a few surgical cases, fevers, either typhoid or malarial, represent about one-third of the mortality—the *total*, at the same time, corresponding with that of August and September respectively.

Winter, with its neutralizing frosts, having set in, we lose sight in November of fevers producing death, except in one case only, and note the unusual number of fatal terminations of phthisis, seven cases of which are reported.

December, though not representing quite the minimum monthly mortality, exhibits the least variety of causes. Pulmonary diseases—phthisis and pneumonia—constituting one-third of those known. In this month, only, we find mention of hemorrhagic malarial fever—one death from it being recorded.

January, whilst like December characterized by the prevalence of pneumonia and the terminations in death of consumption, introduces us again to meningitis, which occasioned this month eleven burials.

And lastly, February, consistent with its fewer days, reveals fewer deaths, and is distinguished also by the predominance of no one disease in its list of thirty.

Having thus cursorily reviewed the sanitary condition of Montgomery during the past year, as disclosed by the monthly mortality, I here give a summary of its mortuary record for that period:

MONTH.	Male	Female	White.	Black	Total
March, 1870	22	17	14	25	39
April, 1870	31	33	25	39	64
May, 1870	30	39	30	39	69
June, 1870	23	19	11	31	42
July, 1870	23	14	15	22	37
August, 1870	29	23	20	32	52
September, 1870	35	18	22	31	53
October, 1870	30	20	24	26	50
November, 1870	20	21	10	31	41
December, 1870	19	13	9	23	32
January, 1871	23	28	20	31	51
February, 1871	15	15	11	19	30
Total	300	260	211	349	560

We ascertain from this table, that in a population of about fifteen thousand (which estimate embraces persons residing within two miles of the city limits), we have to report, as having occurred during the past year, five hundred and sixty deaths—an average of forty-six and two-thirds to the month, and in the ratio of one to twenty-seven of population.

In justice, however, to the health reputation of our city, which, at first sight, the above memoranda would quite naturally and unfavorably affect, it is necessary to state by way of qualification, one or more causes which might not otherwise be considered as con-

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tributing to the apparent large percentage of mortality to population. First is the effect upon our actual or permanent population, as ascertained by census, of the extensive and fertile lands immediately and completely surrounding the city. This belt is of course densely populated by negroes, employed in its cultivation, who, as is well known, when disabled or not at work, frequently seek shelter, medical aid or support at the hands of relatives and acquaintances in town, thus furnishing additional and more favorable material for the ravages of disease. And to this circumstance should be added the presence of the county hospital in the suburbs, and the prevalence last year of an epidemic.

As in all mortuary statistics of localities in former slaveholding States, prepared since emancipation, we find here a relatively larger mortality among the negroes, though, viewed in conjunction with the above qualifying explanation, the difference is not so striking as is shown in many other communities.

In this connection, as indicating, in addition to the effect of such as are purely physical, the influence of other causes, unquestionably *moral* in their nature or origin, conducing to the manifest diminution—perhaps the eventual extinction—of the negro race, I would here call attention to a fact revealed by the tables of diseases accompanying this report. Of thirty-seven (37) stillborn children, thirty (30) are black! I regard it as unnecessary to more than suggest, that in all likelihood, "Root Doctors" and vendors of "Female Regulators" have found some profit in the cause of the disparity.

As observed in the outset, no disease of an epidemic character, or of especial interest to the association, has prevailed in Montgomery within the period embraced in this report, with the exception of cerebro spinal meningitis.

Referring to the tables, it will be perceived that with the exception of September, November and December, no month was entirely exempt from this fatal malady. Indeed, it is questionable whether there were not fatal cases of it occurring in at least two of the months excepted, and reported as congestion of the brain; for it is well known to those familiar with the disease in its epidemic character, that death in some instances follows so rapidly the invasion as to prevent the manifestation of other than the cerebral symptoms.

In April and May it was fairly regarded as epidemic, and thirty-six deaths attributable to it placed upon record.

The symptoms were usually well marked. Rapid invasion, sometimes followed by chill or rigor, but as frequently not; eyes suffused and anxious in expression, with contracted—very rarely dilated—pupils; pain in the back of the head and neck; great restlessness, muscular stiffness and uncontrolable jactation; tetanic spasm severe, amounting in almost every case to opisthotonos. In one case reported by Dr. Michel, the posterior flexion was so great

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TO MARCH 1ST, 1871.

TALITY AND DISEASES OCCUR-G IN MONTGOMERY FROM MARCH 1ST, 1870, TO MARCH 1ST, 1871,

Diseases.	Whites	Blacks	Total...
ess cervical	1	...	1
tion	1	...	1
minuria	2	...	2
putation	...	1	1
putation thigh	...	1	1
emia	...	1	1
sarca	1	...	1
plexy	...	1	1
chitis	2	...	2
ns	...	2	2
iac disease	8	11	19
er	2	3	5
ritis	1	...	1

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that the occiput was nearly in contact with the spinous processes of the cervical vertebræ.

In some few of the cases the characteristic grin was observed. Consciousness usually remained almost up to the moment of death. Finally, however, coma or delirium characterized the disease, either from the outset or during its progress, and sometimes convulsions closed the scene.

In some of the extremely protracted cases there was observed muscular paralysis, strabismus, ptosis and the hæmic or purpuric eruption. Dr Gaston reported several cases of complete deafness, and Dr. Michel, at the last meeting of the society, again called attention to the fact that he had observed total blindness in several cases long prior to death—not from disturbance of the retina (which is a well known pathological condition in the disease), but from opacity of the cornea—demonstrating to his mind most conclusively the asthenic character of the disease. Dr. Michel remarked, also, particularly in the last four cases coming under his observation, great pain in the region of the liver, which pain continued during the entire attack.

We have lost about fifty cases during the year, and I fear the percentage of deaths has been great. Eleven cases of death from meningitis in January and two in February of the present year have been reported, and I may add we still occasionally hear of its fatal presence in our midst.

The most rapid case in its progress to death, as far as I have ascertained, came under my own observation. A child six years old, playing about the house in apparent good health, complained after 6 o'clock P. M. of headache and chilliness. Convulsions supervened at 10 o'clock, and she died at 2 o'clock A. M., having been ill just eight hours.

In contrast to this case, Dr. Gaston reported at our last meeting, March 6th, one which at that time had continued over forty days.

The record of mortality from the cause under consideration exhibits twenty-nine blacks and seventeen whites—twenty-seven males and nineteen females.

With regard to treatment, we relied almost entirely upon counter-irritation and opiates. Dr. A. A. Nelson has found the administration of the tincture of gelseminum sempervirens very efficacious, and prefers it to all other remedies. He exhibits it in doses of from ten to twenty drops three or four times a day.

Dr. Peter Bryce—present at the last meeting of our society—suggested the use of ergot in the paralysis which not unfrequently attends convalescence from this disease.

Dr. Seelye advocated the abstraction of blood both local and general, conjoined with mercurials, with a view to their constitutional effects, defibrination of the blood.

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DISEASES OF BENTON AND VICINITY.

BY DUNKLIN PIERCE, M. D., OF BENTON.

Having been appointed to report upon the diseases of Benton and vicinity, I beg leave to submit the following:

The year 1870 was remarkable for its dryness and high temperature, being continuously and oppressively hot nearly throughout the entire summer months. The town of Benton is situated on the Alabama river, 390 miles from Mobile by water; two large creeks, Big Swamp, quarter mile above, and Old Town, quarter mile below, emptying into the river. These creeks stretching out into broad valleys, respectively in a southeast and southwest direction.

The valley of the river here is three or four miles in width, interspersed with numerous ponds and marshes, and altogether it is considered, and justly so, an intensely malarial region. Diseases arising from this cause prevail throughout the year, modified to some extent by the cold of winter; and nearly every disease encountered by the physician, complicated in some way by this ever present poison, assuming a regular paroxysmal and periodical feature. Upon a survey of the past year's history, there has been more sickness, attended with less mortality, than for several years past. There is a noticeable fact in regard to the treatment of disease among negroes: those affections of a malarious origin purely, are more amenable to remedies than similar complaints in the Caucasian, though the former seem to be equally susceptible to malarious influence. For several years past I have met with a good many cases of hemorrhagic malarial fever, two of these cases being negroes on my own premises; but this year there has been an entire absence of this dreaded "yellow disease" or chills (valgia) in this vicinity—but one in my experience, more potent to destroy, has supplanted it, well named by Wood, "pernicious intermittent."

In the cases of this truly formidable disease, coming under my charge, five-sixths have terminated fatally, though all, with a single exception, have occurred in individuals debilitated by age, previous disease, or intemperance. In every instance coming under my observation, this pernicious form of disease has been the sequel of "chronic chills," and seemed totally unamenable to medicine. A rehearsal of the general symptoms may not be inappropriate. The patient, after several attacks of quotidian or tertian intermittent, would be seized with a paroxysm of a more alarming character, and

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I would find him pulseless, with icy cold extremities; intellect clear and muscular strength intact; skin elsewhere about the body, save the extremities, pleasant; the secretions disordered and stomach much disturbed, accompanied with retching and vomiting of dark, grumous bile; thirst intense. This state of things generally lasts from thirty-six to forty-eight hours, when wild delirium sets in; the heart's action becomes so much disturbed that in many instances it is impossible to number its disordered pulsations, and under the most powerful nervous and arterial stimulants no appreciable results are obtained, and death speedily closes the scene. Such has been my experience, corroborated by that of my friends Drs. Bowie, Kendall and Winnemore. It has been a question of curious interest with me how a patient can retain his muscular strength so long, when there is such great nervous prostration and entire absence of the pulse. Without exception every patient I have seen has died in this way. One great reason, in my opinion, for the great mortality in this disease is the want of timely precaution on the part of the patient in applying for medical assistance until the disease, which is of peculiarly rapid action, has so fastened itself upon the citadel of life as to defy remedial agents.

It has become almost a settled conviction with me that chronic chills, if unchecked, will ultimately eventuate either in "pernicious intermittent" or "hemorrhagic malarial fever," and death from one of these causes. In this view of the case prevention is the great remedy; arrest the malady in its incipiency, attack it on the threshold, and overcome those insiduous approaches of simple chills and fever, which by constant recurrence too surely pave the way for these formidable affections.

It is scarcely necessary to go into detail as to the treatment of such cases, but will merely say, "en passant" that quinine and arsenic are my sheet anchors as preventives; when they have progressed to the point I have been discussing, all remedies have proven vain in my hands. Medical art is vain when the vital powers are depressed beyond that point where they are not amenable to the therapeutic effect of medicine; where absorption, assimilation and nervous influence are so obtunded as to be entirely unanswerable to the most powerful stimulants or anodynes. There have been no cases of disease of other than are ordinarily incident to the vicinity, save that described above. It was my design to get a report embracing the county of Lowndes, but failed in this on account of a want of coöperation on the part of my professional brethren; hence my remarks are confined to the limits of my own, and the observation of my friends in this place, to whom I am under obligations for suggestions contained in this subject matter of this crude and unsatisfactory report.

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SURGERY OF MONTGOMERY,

BY JOSEPH M. WILLIAMS, M. D., OF MONTGOMERY.

My report on surgery must be a meagre one. I cannot see the necessity or usefulness in taking up the time of the society with the history of unimportant cases. Science would not be benefitted by such a course, neither would it add to the interest of our volume of transactions. We have had little surgery in Montgomery since our last meeting, except of a minor kind. The few cases that I shall report have been thought to be of sufficient importance from various reasons, to have their history read before you. One or two of them occurred previous to our last meeting, but have never been reported to this association.

I have operated on only two cases for cataract, one a young girl of only fourteen years of age, blind from her sixth year from double cataract. She was not very well developed—had never menstruated. The cataract being soft, and patient young, I chose the method of breaking it up with the needle, and trusting to absorption. I introduced the needle three times into each eye, at intervals of two weeks, and two months. There was no inflammation, except after the first operation, which was not troublesome, and soon subsided; after that she had no untoward symptoms, absorption proceeding rapidly. Her vision is as perfect as it could be expected without cataract glasses, which I have not been able to procure yet. She sees well enough to pick out cotton, and to attend ordinary duties about the house.

The other case was an old negro woman, sixty-five years old. One eye had been entirely destroyed from the effects of an operation, several years previously. The weather was very hot, and the room small and uncomfortable. She, however, insisted upon the operation, and, as she had nothing to lose, being totally blind, I concluded, notwithstanding the unfavorable surroundings, to operate on her. I decided to extract the cataract, but several of my medical friends who were present thought that I had best use the needle, particularly as the cataract had the appearance of being soft. I passed the needle in without any difficulty, but the first attempt to cut through the cataract convinced me that I could not do it on account of its extreme hardness. It was thought best, then, as the needle was already in the eye, to depress it, but the first effort made to accomplish that resulted in dislocating the lens, and it protruded

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partially through the pupil. I immediately did what I should have done at first, performed the usual operation for extraction. The lens, with its capsule, was gotten out without much difficulty, a very small quantity of the vitrous humor escaping. The patient did remarkably well for two weeks; she had neither pain or fever. On the fourteenth day I opened the eye for the first time. The wound in cornea had perfectly healed, and the eye looked well generally. She recognized Dr. Michel's cane as he passed it before her, saying without hesitation what it was. Unfortunately, after this, owing to the extreme heat, and in addition, the room again being used for cooking, and filled with smoke nearly all the time, considerable inflammation accrued, and lasted for some time. As it was, the operation was only partially successful. She removed to the country, and I lost sight of her, and do not know how far a cataract glass would go in improving vision.

I find next in my note book a case of tetanus, which ended in recovery. The tetanic symptoms came on two weeks after a cut on the foot, which resulted in severing one or two of his toes. He first called my attention to the difficulty he had in opening his mouth. In a few hours afterward he was unable to open his mouth exceeding one-eighth of an inch; his head was drawn back, and he suffered intense pain in his back and across the abdomen. He took castor oil first, afterward he was treated for two weeks with one-third grain of morphine hypodermically only twice a day, and twenty grains bromide potassium every four hours. Finally quinine and extract canabis indica, were given him until complete relief was obtained.

The next was a negro girl with comminuted fracture of ankle joint, caused by the falling of a high brick wall, under which her foot was caught. A straight splint was placed upon the inside of the leg, and a bandage passed around the foot and leg, leaving the external maleolus exposed, so as to be dressed with cold water, which was constantly applied. About the fifth day the whole of the skin upon the external maleolus sloughed off, exposing bones of the joint. I was sure that amputation would be called for in a few days. But after dressing it for five or six days with carbolic acid, I was gratified to find a great improvement. A small piece of bone came away, and in six days she was walking about on crutches.

Jack, a negro man, stuck a knife into the angle of the thumb of the right hand, cutting either the palmer arch or the radial artery, as it curves around the base of the thumb. The bleeding was profuse. It was dressed by pushing a piece of sponge soaked in persulphate of iron, down into the wound. This arrested the bleeding until the third day, when I saw him for the first time. He had lost a great quantity of blood. I controlled it by pressure upon the brachial artery, removed all of the dressings, but found it impossible to get to the cut artery. Finding it impossible to control the

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hemorrhage in any other way, on the second day after I first saw him, I cut down and tied the radial artery. There was no trouble afterwards, the ligatures coming away on the tenth day.

A young man was brought to me from the country, with the following history: He is about seventeen years of age—parents both living and perfectly healthy. He is well developed, and has enjoyed uninterrupted health until about two months previous to his coming to consult me, when he commenced complaining of his left eye. But as there was an epidemic of sore eyes prevailing in the neighborhood at the time, little attention was paid to it for several days, when the pain becoming intense around the orbit, it was noticed that the eye ball seemed to be protruding from the socket. He was blistered on the temple, and the pain subsided in a short time; but the protrusion gradually increased from day to day. When he first came to me he was suffering no pain, and was able to sleep well at night; he looked stout and healthy; his appetite and digestion were good. The eye itself looks perfect. There was some conjunctivitis, and the lids could not be made to cover the eye. There was little or no vision in the eye, and very little motion. After consultation with several of my medical friends, it was thought that there might possibly be an abscess in the orbit, though we all feared a malignant tumor. It was thought advisable to introduce an exploring needle into the orbit behind the ball. This was consequently done, but no matter was discovered. I was now satisfied that there was a malignant growth behind the eye pushing it forward. Extirpation of the whole eye was now decided upon. The young man's father having returned to the country, it was thought advisable to await his coming to the city. In the meantime, the young gentleman becoming impatient, and tired of the city, went home, thinking that he would come back in a few days. The next thing that I heard of him was that, after returning home, preferring to be with his friends, Dr. Chambers, who lived near him, had operated, removing the whole of the eye. He died in a few days after the operation. Dr. Chambers has kindly furnished me with the following history of the case after his return to the country:

He saw him on the tenth of November, in consultation with Dr. Posey, the family physician. The eye appeared to be protruded half inch or more, and the tumor had grown very rapidly within the last few days. There had been a puncture made into the tumor by Dr. Weatherly, which was discharging a watery fluid. There was some evidence of inflammation around its margin. The tumor was growing so rapidly that an operation was deemed immediately necessary for its removal. The operation was performed on the morning of the eleventh, Friday, the whole of the contents of the socket involved in the disease. The entire mass was taken out. This was accomplished without difficulty, and with the loss of very little blood. The eye ball was found to be filled with matter; in fact

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there was a white point on the cornea, and it no doubt would have bursted in a few days, and discharged the pus, which was making its way forward. The wound was dressed with lint, compress and bandages. It was not dressed again until the fourth day. The wound did not present a healthy appearance; the edges were purple, much thickened and inclined outwards. The upper lid had sloughed, and there was some hemorrhage. Nitric acid was applied to the bleeding points, and the wound dressed with carbolic acid. Even at this first dressing after the operation, the tumor was perceived to be growing again. The wound was dressed with the acid, Darby's fluid, and washed with soap and water until the 26th. The appearance was still unhealthy, and the orbit was rapidly filling up with the morbid growth. The same dressing was continued until the 22d, when he died. He had internally protiodide hydrargyrum, compound tincture iodine, stillingia, and Fowler's solution arsenic. I will state here that I put him upon Fowler's solution when he first came to me.

Dr. Chambers says further that he discovered nodes on the head on the 10th of November, the day previous to the operation; that subsequently they appeared all over the body. To the Doctor's questions he now acknowledged for the first time that some six months previously he had had a sore on his penis, which he cured with electric oil. A small scab was found on the point indicated. Dr. Chambers asks the question—"Did not the coating of oil cause the absorption of the syphilitic virus by excluding the air, and consequently the healing of the chancre." This supposition is of course unnecessary if he had a true chancre, and especially if the theory (to which I am very much inclined) be true that the development of the chancre is already the effects of a constitutional infection.

The Doctor's next query comes after saying that he had found out that (which is contrary, however, to the history given me of the family) the patient came of scrofulous ancestors, and is in these words: "Are not those who are predisposed to scrofula, tubercular consumption, etc., more susceptible of contracting diseases, and are they not more apt to be inoculated by coming in contact with virus of any kind than those who have good constitutions?" Of course, persons of broken-down constitutions would suffer much worse consequences, if not more liable to contract disease, than healthy persons from the poisonous effects of any infecting virus.

The Doctor continues his interesting history by saying that this young gentleman denied ever having had sexual intercourse in his life, but that he had slept with a young man who had syphilis at the time. Of course if the poison was brought in contact with his person, it matters not whether it comes from male or female, and he may have contracted syphilis in that way. Previous to his death several purple tumors of the size of a marble appeared in the mouth and throat. The teeth became loose, and on lifting one out

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the socket was filled in twenty-four hours with a growth as large as a marble. He never complained of much pain; slept soundly most of the time; his mind continued clear to the last; there was no influence exerted on the other eye; he lost little flesh, though towards the last he could not swallow on account of tumors in the throat. He died six weeks after the operation.

I show you here a piece of bone, ——— in length and ——— broad at its widest part. It came away from the rectum of a female patient of mine. Some two or three months previous to its expulsion she sent for me, and I found her complaining of intense pain on the right side of the anus and about the protuberance of the ischium. She suffered great pain for several days, when, thinking that I could detect fluctuation, I plunged a bistory into it. Only a small quantity of matter followed. However, the pain was relieved in a great measure. Another opening formed on the opposite side in a few days, and I thought she was going to have an anal fistula. Two months later I was sent for in great haste, but previous to my arrival this bone passed from the rectum. It gave her great pain in passing out. She has no recollection of ever having swallowed it; and the question arises how she could have done so without knowing it. She is about fifty years of age—has ceased to menstruate, and there are no symptoms of extra uterine fœtation.

I have operated several times for hemorrhoids. I prefer the ecrasseur as a general rule; it is less painful and more speedy. I have never seen any bad effects following its use in these cases.

I have a patient that I have tapped three times. I mention it, not on account of the operation, which you all know is one of the simplest, but to illustrate a pathological and practical point, which is, that it is better in some cases to resort to early tapping for the removal of the dropsical effusion than to trust to uncertain medication. The patient alluded to is a man, about fifty years of age, has a liver that is two or three times as large as it ought to be, and is the effect of whiskey. His stomach had become so irritable that it was impossible to give him any of the ordinary remedies for reducing dropsical effusions. I had to tap him again in six weeks after the first operation, and the third time only three weeks' interval from the second. Since the last tapping there has been a marked and rapid improvement. I am enabled to give the ordinary remedies for dropsical effusions, and with care and prudence I think he will live a long time. I am satisfied that he could not have lived three weeks from the time of the tapping had it not been performed. Now the point to which I wish to call attention is this: Is it not better to get rid of the water mechanically (where there is no positive contraindication) than to trust to uncertain drastic medicines? The stomach, and the system generally, is certainly in a better condition after the removal of the water by tapping, for successful medication, than it is previous to its performance. I have intro-

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duced this case incidentally, because I know that the operation of tapping is always considered by the patient and physician as the last resort. And I am satisfied that in some cases we can remove the water by operation, and then resort to medication with a much better prospect of success than we could have anticipated without surgical interference.

In uterine surgery I find four cases in my note book that are of sufficient importance to call forth especial mention. I find one case of imperforate hymen, which is of some interest. The patient was a young girl of about seventeen years of age, finely developed, and looking rather healthy than otherwise. She had been suffering with pain and general uneasiness for about two years, for which she had taken a variety of medicines from different Doctors. Finally, falling into the hands of my friend, Dr. F. M. Hereford, he diagnosed the case, and asked me to operate for him. When I first saw the patient she looked so well, and presenting the appearance of a woman in the eighth month of pregnancy, that I must confess that I feared my friend had made a mistake. However, after making a thorough examination, and finding a soft fluctuating tumor protruding between the labia, with no sign of any vaginal opening, I was satisfied as to the nature of the case, and was perfectly willing to undertake the operation. The next day after my first visit, Dr. Hereford assisting, I introduced a large trocar, and drew off over one gallon of thick, dark looking matter, which I supposed to be the retained menstrual flux. I then made a free crucial incision, at the same time clipping off a good portion of the thickened hymen. The blood continued to trickle away for several days, when it ceased entirely, and she menstruated one month arterward with perfect ease, and has continued to do so ever since. She had no bad symptom whatever after the operation. I believe it is better to make a free incision in these cases, giving a chance for the accumulated fluid to escape rapidly, previous to decomposition, which it seems to me is obliged to take place if you only make a small opening, which may let the air in, and yet not furnish a sufficient escape to the retained fluid.

I have had occasion several times to introduce tents into the mouth of the womb. I generally use sponge-tents, though in some cases I have found the seatangle much the most agreeable and efficacious. One case only I find of sufficient importance to make special mention of. She was a young married woman, exceedingly anxious to have children. I found, upon examination, that the os uteri was so small as to preclude all idea of impregnation without treatment. She had been married over twelve months; had never been very regular in her menstruation, frequently missing two or three months, and always suffering great pain. I introduced two tents at intervals of only a few days. The removal of the last one was followed by menstruation, and pregnancy occurred immediately afterwards. She is now in the eighth month.

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Case of Encephaloid Cancer.

Dear Doctor:

In compliance with your request, I present below a brief account of a case of tumor (subsequently ascertained to be encephaloid cancer) operated upon by me, in the presence of yourself and others in November last.

Towards the latter part of October, 1870, I was applied to by Louisa Hill, a colored woman, dark mulatto, aged thirty-five, married, the mother of two children and advanced to the seventh month of her pregnancy with another. Her general health had hitherto been, and was then, very good.

I found on examination a somewhat irregularly shaped and lobulated tumor, conspicuously elevated above the surrounding surface, measuring six and half long by four and a half inches short diameter—situated on inner side of left arm (its long diameter corresponding with axis of humerus) and reaching nearly to axilla. Whilst presenting hardness to the touch around periphery of its base, for the greater part especially in the centre, it was yielding and elastic; suggesting, indeed, the presence of some fluid contents.

She stated that it appeared first about four months prior to her application to me, residing at the time in the country, and assisting her husband in the cultivation of a farm.

The enlargement, as was evident, had been very rapid, attended with considerable pain all the time, and latterly occasioning most intense suffering.

In uncertainty of the nature of the morbid growth and disposed, from its history and character of the pain, to suspect malignancy, a purely anodyne course of treatment was advised and further developments looked for. In the meantime some increase in the size of the tumor became apparent, and the pain intensified to a degree almost unendurable and defiant of opiates, of which large quanties were taken day and night.

Under these circumstances, after mature consultation, during which her condition of pregnancy, the malignant or unmalignant character of the growth and the possibility of aneurism were fully weighed, it was determined to resort to removal—the conviction being that whatever might be the result of the operation, it could but at the worst, precipitate by a few days only, the fatal termination to which her incessant and excessive suffering and daily increasing exhaustion was rapidly tending.

On the 19th of November, therefore, assisted by Drs. Hill, Weatherly, Baldwin, Michel and R. T. Williams and Fremon, I proceeded to operate. Relieved from apprehension in regard to aneurism by the exploring trochar, and having the patient fully chloroformed, I began with an ample crucial incision, then by careful dissection, relying, on account of the proximity probably of irregular position of the blood vessels, more upon the fingers and handle of the knife

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than upon its edge, and putting aside the nerve which was closely adhered to the tumor, I completed the operation. Quite an insignificant quantity of blood was lost and the tumor, contrary to our fears, was without difficulty relieved from its deep seated attachment and came away entire with envelope unbroken, rolling, as I remarked at the time, into my hand as an orange, stripped of its peel. A few hours after the operation, and at my request, my friend, Dr. R. F. Michel, subjected the morbid mass to careful dissection and a thorough investigation under the microscope. I give the result in his own language.

The tumor is heart shaped and of a greyish color—being about six inches from base to apex and four inches in diameter—lobulated and weighing exactly one pound.

Upon splitting it open the true character of this morbid growth was fully revealed. It is encephaloid, better known by the term medullary sarccoma or soft cancer. Its very situation, pushed as it were into the inter-muscular space between the belly of the bicips and the brachialis anticus, would have naturally warranted such a diagnosis. Its peculiar elastic feel indicating almost the presence of a contained fluid, as well as the number, size and interlacing character of the venous currents, external to the cyst, pointed out very graphically the characteristic features of a medullary cancer. The situation of the capsule was that of connective tissue and, from its internal surface, prolongations would dip down into the interior of the tumor, like the septa of an orange, thus rendering the mass almost completely lobulated. This capsule was also characteristic of medullary cancer, as it had little or no connection with the surrounding tissues, and in this respect presented considerable contrast with what is recognized as schirrous or hard cancer.

The contained mass was soft and pulpy—not tough, but almost gelatinous—easily broken down and resembling in color and external appearance brain matter. We observed here and there distinct spots or patches of accumulated blood, which had evidently been infiltrated into the mass, two or more in each lobe; and I may here state that in making the section of the base, a distended venous sinus was observed. The cancer-juice was abundant and easily diffusible in water.

The microscope revealed many typical corpuscles, nucleated cells, such as are known as cancer cells. With these single and frequently double nucleus many free nuclie were observed suspended in the liquid or implanted as it were in a substance of a molecular character, which might be regarded as the "basis substance." These nucliæ were characteristic of cancer, being oval or round-oval, and having a long diameter. Occasionally we observed that these were nucleolated. During the examination we encountered the "elongated caudate cell."

The local and constitutional symptoms following the operation,

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although as favorable during the first twenty-four hours as could have been expected, soon became of so grave a character as not only to warrant acquiesence in Dr. Michel's conviction expressed at the time and confirmed subsequently as above shown, of the malignancy of the morbid growth, but to threaten speedy death. For 5 days her pulse was never under 150 per minute, frequently reached 180; whilst the wound, occasioning pain from axilla to elbow, exhibited sloughing of integuments and a profuse discharge of thin darkish and offensive pus. On the seventh or eighth day, however, a marked and favorable change became apparent. Pulse diminished, sloughing had ceased, purulent discharge, though still abundant, began to assume a healthy character, pain subsided and appetite returned. So promising indeed from this period were the local and general symptoms of the patient that a cure and complete restoration to health was regarded as almost certain by myself and all others who saw the patient from time to time, with the exception of Dr. Michel, who, in view of the subsequent history of this case, it is fitting I should here state, maintained throughout his belief in the cancerous nature of the tumor as revealed by his microscope and the certainty of its return.

The wound having by granulation filled up, and except a space in the centre of about an inch square cicatrized, and the general health of the patient having been so far recovered as to admit of her resuming to a considerable extent her household duties, I relinguished my usual visits about the 20th of December. On the 26th of December I learned that during my absence from town the day previous she had given birth to a stillborn child. A week subsequently I was called to see her by her husband, who stated that "her milk had fallen into her arm." I found what I was by the message prepared for; in other words a return of the disease, manifest in the presence of three small tumors, barely perceptible to sight, and situated almost within the axella.

The enlargement following was rapid in the extreme; indeed almost wonderful; presenting at the end of one week a tumor which, though not so regular or prominent, equalled in the mass the one removed seven weeks previously.

Ulceration quickly supervened—beginning at the small uncicatrized part of the old wound. With the progress of the ulceration, numerous and enlarged veins becoming involved, frequent and exhausting venous hemorrhages occurred almost daily. She died on the 19th of January, just two months from date of operation.

Cases Reported by Dr. Fremon.

A case of compound fracture of the right radius and ulna, a child four years old, treatment, starch bandage and sling support. Recovery rapid.

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A case of ligature of the right temporal artery, a white man 26 years old, for hemorrhage, caused by a cut made with a beer mug.

A case of ligature of the left radial artery, a negro man 31 years old, for hemorrhage, from a cut with an axe in lower third.

A case of luxation of the head of the left humerus, a negro woman 23 years old, about five months pregnant, rather stout. Reduction by placing the heel in the axilla and manipulating the arm; no chloroform being used. No subsequent trouble following.

November, 1870.—A case of cystic hydrocyle, in a white man 43 years old. After the evacuation of the fluid from the sack, by the introduction of a small trocar, the scrotal sack was tightly strapped up with adhesive strips, and from time to time repassing the trocar along the spermatic chord, and turning its point in right and left directions, (slightly) thereby exciting and promoting adhesive inflammation within the cystic sack. No accumulation of fluid has occurred since, up to date of last examination, (March 12th, 1871). The scrotal sack is somewhat larger than natural on the side affected. No annoyance is now felt, however, and the tendency is to diminution in size, showing that the cure of cystic hydrocyle may be accomplished by promoting adhesive inflammation within and pressure from without the sack.

February, 1871.—A case of abscess of the left ovary discharging itself through the rectum. This was the case of a white woman about 30 years of age, who had yellow fever in September last, in Mobile, Ala., where she resided at the time. Prior to the attack of yellow fever she had always been very healthy. Subsequent to the attack (yellow fever) she suffered from tenderness and slight pain at intervals in the region of the left ovary. Her health continuing bad, she came to Montgomery, thinking the change might be beneficial to her. In February last (1871,) she became alarmed at her condition, and requested me to visit her. I found her much emaciated, pale, feeble, pulse 92, lying directly upon her back, with the legs flexed as much as possible, and expressing herself as "suffering the greatest pain," which was certainly verified by the expression of her countenance. I proceeded at once to make a digital examination per vagina. I found the os rather low down, much thickened, and very sensitive to the touch; indeed there was so much tenderness and inflammation about the whole genitalia as to preclude the use of a speculum for the nonce. The os was, however, in situ in other respects; and placing the woman on her side, I continued the examination by introducing a second index finger into the rectum, keeping the first in the vagina, its pulp against the os. I easily detected by this method a large tumor-like body to the left side of the fundus uteri. Noting the tumor-like appearance of the outer walls of the abdomen in the region of this enlargement, the great amount of inflammation and tenderness about the parts, together with the patient's general condition; keeping in view the fact of her having

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had yellow fever, I came directly to the conclusion that I had under observation a case of abscess of the left uterine appendage. On the fourth day after my first visit, I was summoned in haste to see her, the messenger stating that she was "suffering greatly, and could not live long." Upon my arrival I proceeded to examine the patient, and discovered that pus was escaping in small quantity from the rectum. Feeling satisfied at once that a point of exit had been determined, I passed the index finger of the right hand along the rectum, over the surface of the abscess, making pressure on the outer walls of the abdomen, over the abscess, with the left hand, and had the gratification to feel the pus escaping over the finger in the rectum. This escape continued until the abscess was evacuated.

I am of opinion that the great amount of extravasation and hemorrhage that occur in the uterus and its appendages in yellow fever, was the cause of this abscess, and the deductions of Dr. Middleton Michel (5th vol. Charleston Med. Jour.) so long ago as the autumn of the year 1849, point inevitably to this conclusion.

The treatment of this case was simple, consisting in the first stages of warm fomentations, and as the demand became imperative from time to time, the hypodermic use of two parts of morphine, and one part of atropia in combination, in sufficient quantity to produce sleep after the exit of the pus, and as a local application to the inflamed genitalia, which were very painful at the time, the following:—R. ammoniæ muriatis four drachms, acid acetic half drachm, camphor water ten ounces. It is to be applied by means of cloths wet with the mixture, being kept laid over the parts for about forty-eight hours. When the inflammatory excitement had passed, potass bromide three drachms, tincture cinchona compositum four ounces, in desert spoonful doses were given for about ten days; a light nutritious diet, varied from time to time, was maintained throughout. She has made a good recovery.

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ANATOMICAL AND PHYSIOLOGICAL REFLECTIONS

ON SOME PARTS OF THE EYE.

BY R. F. MICHEL, OF MONTGOMERY, ALABAMA.

Ex-President of the Medical Association of the State of Alabama, Vice President of the American Medical Association.

It is now nearly a quarter of a century since I published, in the American Journal of the Medical Science, certain anatomical and physiological reflections on some important parts of the human eye; and I design, upon the present occasion, to reproduce for your consideration these investigations in a more particular and, I think, attractive form.

Especially do I do this because I recognize the fact that the opinions I then expressed, are beginning to receive the sanction of the profession in Europe as well as in this country.

The recent progress of the medical science has of late years been so rapid that it may be now said to occupy a position incomparably superior to that enjoyed by most of the other professions. The reciprocal bearing of its various branches, one with another, which is now being daily exhibited, imposes the belief that it must shortly attain the character of a completed and well established science.

While this perfected condition of the medical profession will hereafter presuppose an accurate knowledge of its various departments, it can never, however, deter the investigator from prosecuting his researches in any determinate direction, if he fails not to forget the mutual relations which his results should ultimately present with the connecting sciences. This, indeed, is the goal that we should endeavor to attain, and that must be regarded as the criterion of all future inquiries.

While among the litigated points of anatomy and physiology, there are many questions rendered particularly intricate from the numerous bearings which they present, there are others which require but the scrutiny of an anatomical eye to lead us almost naturally to the physiological inductions which appear to follow as the sequel. This is, perhaps, the nature of the examination into which we are about to enter.

While studying absorption, and believing, from the concurrent

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testimony of several physiologists and the plausibility of their researches, that the venous system plays a prominent part in the discharge of this important function, the eye presented itself to me as said to be an organ totally deprived of lymphatics, which consequently seemed to be an argument verifying the assertion. The question arose, whether the eye possessed any peculiar vascular arrangement which distinguished it in this respect from any other organ, as it was deprived of lymphatics for the accomplishment of absorption. A careful anatomical examination was instituted, by which I purposed to determine the relations which exist between the constituent parts of that organ, and their peculiarities of structure.

In undertaking this subject, and making reference to those works which were inservient to my purpose, I found that I had engaged in a vast field already explored by those whose names are destined long to reign with oracular authority over anatomical questions. Indeed, the names of *Sœmmerring*, *Zinn*, *Arnold*, and others, appeared to preclude the possibility of my determining anything positive with regard to this problem. But as from every subject truth may be said to radiate like the beams of light in various directions, the hope has been encouraged that it is given to every one to view it in some one of those numerous phases, which may possibly have escaped the scrutiny of the imposing authorities, whose names have been mentioned above.

Proceeding then, without further preliminaries, to the disscussion of a subject no less intricate than interesting, we will, for the facilities of description and the more orderly exposition of the facts which support our views, comprise what we have to say under two sections: examining under the first head such parts of the eye, the complexity of whose structures fails not to attract our serious attention; and under the second, making such physiological inferences from the structure of these respective membranes, as may elucidate the functions they discharge in so delicate an organ as the eye.

As our remarks will, therefore, particularly bear upon the function of absorption, and the nutritive acts as they transpire in the eye, attention will be almost solely directed to the *choroid coat* and its appendages, the *iris* and *ciliary processes*, while the hyaloid membrane and body will also engage our time, so far as they may be connected with the vascular arrangement of the organ.

After my first examination of an eye, prior to my attention being especially engrossed by this subject, I found that my impressions concerning the choroid coat were by far the most striking. I was no less impressed with that peculiar deposite [than which there is nothing more singular in the whole economy] investing the entire membrane, than that there should be so large a reticulum of blood vessels in so small a space. Indeed, the vascularity of this coat is

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such that the learned Professor Cruveilheir justly remarks that the words *choroid* and *vascular* are synonymous, and it may not be irrelevant, perhaps, to allude to the etymology which sanctions such an opinion.

The term *chorion*, applied to one of the membranes enveloping the fœtus in the Greek word *Χυίζου*, which is derived from *Χίοζοε*—domicilium—a house being indeed an abode for the fœtus, a protective envelope of indispensable necessity to its nutritive acts.

But this membrane being formed of a network of vessels, its extreme vascularity became the characteristic feature which served to discriminate it from every other membrane in the body.

When, indeed, Hyrophilus described the choroid coat its vascularity likened it at once to the chorion, and though we will not at present anticipate the parallel which we are about to establish between these two membranes, let me only state that the word is compounded of *Χόζίου*—chorion, and *Εἴδοζ*—resemblance.

Of the general direction and relation of this vascular layer it is needless to speak, as this would be but reproducing what every elementary work on anatomy contains, but of its anterior termination and structure, concerning which there is such diversity of opinion, we will furnish some account.

Since the days of the celebrated injector, Ruysch, the choroid has been regarded as composed of three distinct layers, which are readily exhibited when recourse is had to the proper modes of preparation. The outer layer which is manifest to the unassisted eye, is formed by a multitude of blood vessels, held together by cellular or filamentous tissue (these cells are pressed together, colorless, having short branches which penetrate a striated tissue partially nucleated), and when examined with the lens present a tortuous dissection, running into centres, from whence radiate a number of convoluted capillaries. From the multiplied centres, the rendezvous of these arborescent ramifications, the vessels (which are altogether composed of veins,) have been called venæ-vorticosæ, and contrast very strikingly with those of the layer beneath, which is made beautifully conspicuous when both are injected.

The lamina immediately beneath is arterial, its vessels coursing lengthways towards the anterior part of the eye. This is the layer which was first so beautifully injected by Ruysch, and has ever since borne his name, tunica Ruyschiana. This part when well injected gives to the choroid coat the appearance of a sheet of gold. Very excellent representations of this are given in Zinn (J. G. Zinn, Descriptio Anatomica, Oculi Humani, Tab. 4, Fig. 1st, 2d,) and Soemmerring, (Soemmerring Oculi Humani, Explicatio, Tabulo Quinto, Figura Septima). The elastic membrane of the choroid is there almost transparent, perfectly hyaline; it may be termed a structureless membrane, studded here and there by nuclei, which give it a beau-

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tiful appearance. This delicate membrane lines the inner side of the tunica Ruyschiana.

The next lamina which forms the inner part of the coat in contact with the retina, is not readily exhibited in the human eye, though in the sheep it is always easily demonstrated. This is the membrana pigmenti. After maceration a separation of this portion is most easily effected by commencing at the *tapetum lucidum*, where the layer possesses the greatest thickness; conveyed beneath the microscope, it presents the beautiful appearance of a hexagonal tessellated pavement, each hexagon being a cell in which the granules of pigment are secreted, that portion of its extent forming the tapetum being void of pigment globules, though the cells exist.

Now, after the cursory view of the several constituent parts of the choroid, let us examine the mode of their termination at the anterior part of the eye. Indeed, this is the question which it behooves us to examine, and its careful consideration will form the principal object of the present remarks. The generally received opinion is that there is a mutual reception of the ciliary processes, iris and ciliary ligament, and in such a manner, we are told, as to allow of a ready separation of the iris from the rest of the choroid, upon a knowledge of which assertion rests the operation for artificial pupil. But the exact mode of termination of these several structures, nay, even their exact nature, is by no means settled.

A signal illustration of the diversity of opinions on this subject, may be found by perusing a work published by a distinguished physiologist of Germany, Rudolph Wagner, who, in speaking of the ciliary processes, calls them *muscular*, an opinion now professed by few, and which is certainly in formal contradiction with the result of my observations, as far as they have extended among several classes of animals, the sheep, ox, dog, and cat, and in the human species.

Home and Wallace (from their observations on the inferior animals,) believe the ciliary processes to be muscular, and to aid in adjusting the focal distance of the lens, to the capsule of which they are indirectly connected. (Structure of the Eye, by W. C. Wallace.) Casper Wistar says: "The intimate structure and function of the ciliary processes *are unknown*," and also remarks, "that many think them *erectile*, altering the position of the lens by their expansion or contraction." He says in another place, "their outer extremities seem to adhere anteriorly to the iris, and posteriorly to the retina, and to the capsule of the vitreous humor." Dr. Irwin (referred to in John and Charles Bell's Anatomy and Physiology, p. 226, vol. 2.) says *they are muscular*, and goes to work to demonstrate how they move the lens. Leidy describes the ciliary processes as composed of "all the elements of the choroid coat;" he describes the artery in them as convoluted, (this I think must have been done by a forced injection,) while Rosow, quoted as authority on this subject by Stell-

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wag, says: "The structure of the ciliary processes is very analogous to that of the choroid. It may be divided into the same layers, with the exception of the chorio-capillaries (membrana Ruyschiana, the arterial coat of the choroid,) which ends at the ora serrata." Again, Claude Bernard and Charles Huette, when describing the anatomy of the choroid coat, on page 142, says: "Les procès ciliaires, plis constitués par le feuillet interne de la choroide, flattent derrière l'iris et entoment la circonférence du cristallin avec lequel ils n'ont aucune adhérence intime." Here we are told distinctly that the ciliary processes are made up entirely of the inner layer of the choroid (the membrana pigmenti,) that they have no vessels in them, for on page 141 the choroid coat is thus described: "La choroide tapisse la face interne de la sclérotique à laquelle elle adhère faiblement. Cette membrane est composée de deux feuillets distincts, l'une interne, entièrement constitue par du pigment, l'autre externe et essentiellement vasculeux." Handy, in his Anatomy, page 336, says the function of the ciliary process "*is to secrete or furnish the black pigment.*" Whatever be the mode of union of the *iris* and *choroid*, one fact may be easily established, which is, that the adhesions between the two are far more intimate than is generally believed.

To convince ones self of this fact, we need but observe in dissecting an eye that the *choroid* and *iris* continue still to protect the humors after the removal of the sclerotica and cornea. There is only a slight adhesion of the iris and choroid with the sclerotica. This connection appears to me to be of a muscular character, particularly in the eye of the bird, and in the sheep, where the anterior layer of the iris, which is clearly muscular, seems to give off a multitude of tendinous slips attached directly to the choroid under the form of a circular white line, improperly callled "*annulus gangliformis, seu ganglion annulare,*" by Soemmerring *(Soemerring, Icones Oculi Humani, Explicatio Tabulae Quintal, Figura Septima.)* This is no ganglion, but muscular tissue, not deserving the appellation which it often bears of ciliary ligament; it unites the muscular or anterior layer of the iris with the choroid, just as the posterior layer, which I consider as altogether vascular, is directly continuous with that tunic. The pulpy appearance, which the ciliary ligament may sometimes assume, is apparently due to the rupture of its slight attachment to the sclerotica, for this circumstance leaves a somewhat similar appearance upon the corresponding part of the sclerotica.

Such, then, is the nature of the so-called ciliary ligament, a bond of union between the muscular or anterior layer of the iris and the choroid, adhering *slightly* to the sclerotica, but *firmly* to the choroid, from which it is torn, but does not naturally separate, in operating for artificial pupil. But the posterior layer of the iris is a direct continuation of the choroid, and therefore essentially vascular, the blood vessels of the latter running forward and downward, passing

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over and concealing the interior surface of the ciliary muscle, for which reason this structure is much less visible on the inner than outer surface. This direct continuity of the frame-work of the iris with the choroid, explains the constant integrity of the membranes after removal of the sclerotica, as they literally are one and the same. This direct continuation of the blood-vessels into the iris is particularly visible in injecting the eye of a fœtus, whose pupillary membrane still exists, as may be seen in the plates accompanying Jules Cloquet's Monograph on this subject. (Memoire sur la membrane pupillaire, et sur la formation du petit circle artériel de l'iris, par Jules Cloquet.) However, I may here observe, and would wish particular attention to the remark, that all the blood vessels do not pass into the iris. Of this I have had repeated opportunity of satisfying myself by injecting the arteries of the choroid tunic.

The ciliary processes, the nature of whose structure has been so variously interpreted, are positively vascular, and present so singular an arrangement of its vessels, that my surprise is great in observing the uncertainty of most authors on this subject. It is true that their nature and the office they probably fulfil were anticipated by ancient writers, but of this we have nothing but the most hypothetical accounts.

The first experiments which were performed on this subject, were by Ribes. (Memoires de la Societe Médicale d'Emulation, vol. 8,) in a series of essays, published in 1814 and 1816; and here I must acknowledge great assistance from the writings of this accurate and laborious investigator, many of whose researches I am proud to have been able to verify, as I am now more than ever convinced they carry with them the stamp of truth.

Some of the many views entertained with reference to the function of the ciliary processes were, first, that they were destined to move the iris, or to fix the crystalline lens, over which they exerted that influence, which allowed the eye to adapt itself to various distances. It was believed again that they secreted the black pigment which invests the chloroid and posterior face of the iris.

It is needless to confute these assertions, as the muscularity of the iris, the membrana pigmenti, and the separation of the ciliary processes from the crystalline lens, are overwhelming arguments to the contrary. Moreover, as observed above, these remarkable structures are altogether vascular, the blood vessels of the choroid coat extending directly into them in the most visible manner, and presenting one of the most beautiful appearances that can be exhibited from injections of any part of the body.

When, indeed, a ciliary process has been divested of that inspissated pigment in which it is disguised, and placed on a lamina of glass, is conveyed beneath the field of the microscope, we may distinctly discover the presence of a hollow canal which, when it reaches the free extremity of the ciliary processes, affects a recur-

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rent direction, coursing backwards parallel to the first, so as to form a perfect loop. Eccentric to this loop there is a fringed arrangement of cellular tissue which, indeed, may be distinctly seen with the naked eye.

Now, after a successful injection of colored ichthyocolla through the common or internal carotid, it will be found that the canal in the ciliary process is an artery derived from the arterial layer of the choroid coat. Again, if we inject by the jugular vein (which is much less apt to succeed owing to the fragility of the veins in the choroid), the injection passes into the fringes of the ciliary processes. The vascularity of these appendages to the choroid then is evident.

Before we proceed to the inferences deduced from this fact, let me further remark, that on no occasion have I found that the substances used in the injections passed into the hyaloid membrane of the vitreous body. I have never, consequently, seen the hyaloid artery described by Cloquet and others as passing through this humor to the posterior part of the lens, though the arteria centralis retinæ has been easily and fully injected. In these respects do I fully concur with Ribes, who was no more successful in injecting the hyaloid membrane.

Besides these ciliary processes described as dependencies of the choroid coat, there are a distinct series of similar structures connected, as I believe them to be, with the retina. Though their presence has been denied by many authors, they are described by others under the name of *ciliary processes of the vitreous body.* They are by no means the depresions of the *zonula zinni* which give that fluted appearance to the canal of Petit, which has led anatomists to term this part of the eye the *canal godronné.* With a good lens in a favorable light the fringes of these ciliary processes may be distinctly seen, and they are also susceptible of being injected, though I am not prepared to determine whether the injection passes into them through the central artery of the retina, or from any immediate connection which may exist between them and the ciliary processes of the choroid coat. Indeed, there is a mutual reception between the processes of the choroid coat and those of the vitreous body. This is now a well known fact; even Horner, in his second volume, page 415, says: "The ciliary processes impress the neighboring portion of the tunica hyaloidea with their shape, and leave upon it the black pigment with which they themselves are covered." It is evidently from this juxtaposition that the latter becomes also invested with the pigment, and a communication between these two sets of processes seems very probable.

If I have supposed the processes of the vitreous body to be connected with the retina, it is from their attachment to the zonula zinni, which I regard as a continuation of the arterial or internal layer of the retina. Many of my dissections justify this belief, and

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some microscopists have followed the nervous, pulpy filaments of the retina along this part to the peripheral portion of the crystalline lens, notwithstanding what Stellwag says on page 128: "The retina is bounded posteriorly by the optic nerve entrance, anteriorly by the ora serrata, where it becomes adherent to the retina." I am inclined to suppose that it is through the zonula zinni that the capsule of the crystalline lens receives blood vessels, and that these are derived from the retina, as there has often been an appearance of vascularity about the lens without any traces of it in the vitreous body. Stellwag says, on page 109, line ninth: "Nutrition is carried on through vessels of the retina uvea."

I am sorry that, while in accordance with Ribes as regards the non-vascularity of the hyaloid membrane and vitreous body, I find that my observations must be placed in opposition to those of Cloquet and Muller. The latter particularly describes the hyaloid artery as passing through the vitreous body, furnishing its membrane, reaching the posterior capsule of the lens, upon which it is spent. He further mentions a fœtal structure, discovered by himself, under the name of *capsulo-pupillary* membrane which also receives its blood-vessels from this artery. It may be that this central artery of the vitreous body exists in the fœtus. Stellwag believes it cannot be found after fœtal life. H. Muller says that "In the calf and horse its string-like tendinous remains are observed after fœtal life." Meissner has noticed the remains of this structure in the human subject with the opthalmoscope. Toussaint, Liebreich, and Sämisch have observed its remains as a tendinous band stretching from the papilla to the posterior wall of the crystalline lens, and then expanding to a flat opacity. Zehender says that he has observed this vessel filled with blood. Henle believes all of these vessels are remains of fœtal life.

Notwithstanding these authorities, I must continue even now, as I did formerly, in my belief, that the humors of the eye are altogether transparent, being deprived of blood-vessels which otherwise would intercept the rays of light, or at least materially interfere with vision, especially as I am countenanced in that opinion by so high an authority as Carl Stellwag, who says, when speaking of this humor (corpus vitreum), "*It is perfectly structureless, without vessels or nerves.*"

Regarding, then, the humors of the eye as completely isolated from the rest of that organ, being enveloped by their proper membranes, which preserving the character of true serous membranes are remarkable for their extreme tenuity and non-vascularity, the question arises, *in what manner is secretion, nutrition and absorption effected?*

Before replying to this question, let me observe that it is not very long ago since the function of absorption, supposed to be the sole prerogative of the lymphatic system, was disputed for by another

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order of vessels, whose important office was made known to us by the valued experiments of Magendie. This distinguished physiologist proved, by a series of experiments which we cannot here detail, that the veins positively absorb. Again, he was conclusive in the further result, that during this process the veins manifested a peculiar predilection for liquids, which were taken up with the greatest rapidity.

Now, taking the anatomical condition of the eye as the basis of a reply to the above question, and pointing out its alliance to the physiological fact just mentioned, we will at once discover a singular parallel between the office of the choroid coat and that of the chorion enveloping the fœtus. Indeed, like this latter, the choroid is alone inservient to all the nutritive and secretory processes transpiring in the parts which it envelops, and this might almost be inferred from its extreme vascularity and the peculiar distribution of its vessels in those several appendages termed ciliary processes. These remarkable structures are organs of secretion. This will be readily understood from what has been said of the central arterial loop, and the venous fringes, which together form a ciliary process; for what would be the object of this extraordinary arrangement were it not to realize some such important office in the vital operations of this perfect organ.

We can certainly imagine that the blood passing through these processes is subjected to an operation allowing the secretion of that aqueous fluid, which by penetrating into the cells of the hyaloid membrane will constitute the vitreous humor. Moreover, from the evident connection of the processes of the vitreous body with, and their penetration into, the capsule of the lens (a fact verified by Ribes) we may readily admit a similar operation as going on in this place, which would explain the possibility of capsular cataract, while the lens itself is perfectly transparent. Stellwag says on page 495, line 24th, "The ciliary processes *seem* to have a great deal to do with the nutrition of the lens."

Now, after the secretion of these humors (perhaps even the aqueous also) the fringed extremities of the processes, being venous, will carry on absorption of the stagnant or vitiated products as follows: The cellulo-vascular fringes of the processes of the vitreous body will pump up the vitreous humor, while from the connection of these processes with those of the choroid, the former will receive in their turn the nutritive elements for the restorative process of secretion. The processes of the choroid, from their pendent condition in the posterior chamber, are admirably adapted for the absorption of the aqueous humor also.

If, after these anatomical details, our conclusions do not appear to be fully justified, there appears to be some pathological facts which will lend us further support in the confirmation of our belief.

As Ribes observes in the excellent memoir alluded to, Scarpa was

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in the habit of operating on cataractous eyes, by passing the lens into the anterior chamber, believing that it would be there more easily absorbed; but it will be seen that this opinion, which was the result of a preconceived notion, was very soon abandoned. Heister, in his Institutions de Chirurgie, particularly refers to the necessity of securing the lens in the posterior chamber, as it will there be more readily absorbed, and we know at present that the appearance of the lens in the anterior chamber is always an embarrassing condition, as it requires a length of time for its disappearance. The serious inconvenience which ensues, is perhaps, owing to the fact that the aqueous humor must first wash away the lens by degrees, and then pass into the posterior chamber to be absorbed. Such, indeed, was the conviction that absorption was more readily induced in the posterior chamber, that Heister and others were in the habit of placing the patient on the border of a bed with his head so depressed, as by frictions over the eye and blows on the back of the head, the lens might be made to pass back again into posterior chamber. In cases of hypopion the same method was made use of, and we would finally remark that the mass of black pigment which invests the eye is thickest precisely in that spot where these wonderfully constructed processes exist.

Stellwag, on page 553, line third, says: "It is not advisable to push the fragments of cataract into the anterior chamber, as they collect at the bottom of the chamber and irritate the iris. Their sinking in the vitreous is not attended with peculiar danger, as they are *then readily absorbed*, and only a small portion of them reach there, for, on account of their softness, they are usually stripped off and remain in the posterior chamber." In another place he says: "Leave nothing in the anterior chamber, not even a flocculi" after the operation for extraction of cataract. This, to my mind, establishes the fact that so high an authority as Stellwag believes absorption takes place better and more readily in the posterior than the anterior chamber. Again: when these views were first made known to the medical public, Dr. Addinell Hewson (one of the surgeons at that time of Wills' hospital and lecturer on surgery in the Philadelphia association for medical instruction, as well as editor of Wm. Mackenzie's valuable work on diseases of the eye) thus speaks of my researches, page 772, line 40: "Dr. R. Fraser Michel, of Charleston, South Carolina, has reasoned in a very ingenious way on the influence probably exerted by the ciliary processes in effecting the rapid absorption which we see taking place in the chamber of the aqueous humor. From contemplating the great vascularity, both arterial and venous, of this structure, and its total want of lymphatics, he has inferred that the function of this body is both to secrete the humor of the aqueous chamber, and to carry on the absorption of all that is removed therefrom by such means."

"The opinion that the aqueous humor is derived from such a

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source, derives at least some support from the rapidity with which it is renewed after evacuation from the anterior chamber. The length of time required for its reäccumulation, under such circumstances, must indeed be very short to enable M. Desmarres to say, in speaking of the accident of prolapsus of the iris in making the section of the cornea for extraction: 'Toutefois, on aurait lieu d'esperer, en attendant quelques minutes et en recommandant au malade de tenir les yeux fermés, de pouvoir reprendre l'operation inachevée. L'iris, en effet, ne tarde pas, par suite de la rapide reproduction de l'humeur aqueuse, à l'éloignes de la cornée.' And then the membrane of aqueous humor, lining the anterior chamber, is so thin, delicate and devoid of vascularity, as to lead us to seek for some other source from which so rapid a product can be derived. The part must be, indeed, highly vitalized, which can so rapidly perform such a function of secretion, and the degree of vitality, in a secreting organ at least, is, by a law of physiology, in direct ratio with its vascularity. Hence, Dr. R. F. Michel, and those who advocate with him such a source for the aqueous humor as that of the ciliary processes, have, we think, a very fair amount of reason in support of their doctrine. The experiments of Magendie, and others, on the facility with which fluids are taken up by venous radicles, might also justify the belief in the absorption of substances, such as fragments of broken-up lens, being accomplished by the same structures here, seeing that this part of the eye at least is almost, if not totally, devoid of the other source of absorption. But pathologists are as yet divided in opinion as to the manner in which the removal of a broken-up lens is accomplished, whether by direct absorption or solution. Be this as it may, and even admitting that the removal of a broken-up lens is more rapidly effected in the anterior than in the posterior chamber (*a fact which we do not think has yet been conclusively established*) we cannot admit that the advantages thus to be derived from throwing the fragments into the anterior chamber are at all commensurate with the evil consequences of such a proceedure."

In conclusion, permit me to acknowledge my indebtedness to my brother and preceptor, Dr. Middleton Michel, professor of physiology in the medical college of the state of South Carolina, for his valuable aid and counsel in the former preparation of this paper for the medical press, and for his important assistance as an injector and microscopist.

Such then is the nature of the facts, which, though they might be dwelt upon more discursively, are sufficient, we deem, to prove that structures so vascular as the choroid and ciliary processes were unquestionably destined to fulfil the high office which (twenty-five years ago) we assigned them.

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REPORTS

FROM THE COUNTY OF PICKENS.

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SURGERY OF PICKENS COUNTY.

BY A. W. AGNEW, M. D., OF PROVIDENCE.

There has been but few cases of capital operations performed in this county during the last year. First, for the obvious reason that but few cases have required surgical aid. Secondly, we have but few physicians who are eminent in the profession as surgeons.

I shall first report to the association my own operations, which have been very few; and secondly, those of other physicians as far as I have been able to ascertain.

The first case I shall report is an amputation of Alfred ——'s leg, a negro boy aged seventeen years, for fungus hæmatodes of the entire foot, extending two inches above the ankle joint. My attention was called to this case in the summer of 1868. He at that time had an ulcer covering the entire malleolus internus; painful, irregular, and unequal, with inverted edges. I saw nor heard nothing more of the case until last April. The boy was then much emaciated, anæmic, and of a sallow complexion, suffering with severe lancinating pains of the entire foot. The other foot was taking a similar disease in its incipiency. Assisted by Dr. J. W. Richmon, who administered chloroform, and Dr. Wm. Kennedy, who applied the tourniquet, and assisted me in the operation, I amputated the leg four inches below the knee. He recovered and did well. I applied undiluted nitric acid to the fungus growth upon the other foot until every vestige of the diseased surface was removed. I also gave him hydriodate of potash and syrup of sarsaparilla. He is up to this time in fine health.

Martha, a negro woman, aged forty-two, was taken in labor forty-eight hours before I saw her. Water ruptured two hours after she was attacked with labor pains; right arm and hand presented without the vulva, os uterus rigid and not well dilated; fetid discharge from the vagina. The child has been dead five or six days. I attempted version with difficulty; I introduced my hand and brought down one foot through the vulva and tied a cord around the ankle, but was unable to move the child by any force I could exert upon it. All uterine contraction had been suspended for the last thirty hours. Having no obstetrical instruments with me, I retired to bed until my instruments could be procured, which I had sent for. During this time I left the case in charge of a midwife to watch the symptoms and report any change that might occur. She, by her offici-

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ousness, succeeded in bringing down the other arm into the vagina, adding more difficulty in the way of instrumental delivery. As soon as my instruments arrived, I proceeded to perform the operation of evisceration. I first amputated one arm at the shoulder joint, next perforated the chest with obstetrical scissors, then with a bistoury divided the soft parts, and with the crotchet broke rib after rib until I got through the walls of the chest, evacuating heart and lungs. I continued my incision through the walls of the abdomen, until all the viscera were evacuated. I then introduced the crotchet, hooked it into the spine, and extracted the child double; aided by uterine contractions, which had set in vigorously after the contents of the chest and abdominal viscera had been evacuated. She recovered rapidly, none of the soft parts having suffered any injury from the operation.

Mrs. S——, aged twenty-six, ten hours previous to my arrival, had been delivered of a well grown child by a midwife. The arm and shoulder of another child presented immediately after the delivery of the first, with prolapsus of the umbilical chord; uterine contractions vigorous and bearing down with great force, showing that the child had already perished from pressure upon the chord, all pulsation having ceased. Dreading rupture of the womb from an attempt to deliver by version, I resorted to evisceration, and extracted the child with the crotchet without injury to the mother.

Mrs. V——, aged thirty-nine, for the last eight months has noticed a gradual enlargement of the tibia, about half way between the knee and ankle joint, accompanied with a dull, deep seated pain, particularly after taking much exercise. For the last three weeks she has had constant chilly sensations; complains of acute, deep-seated pain, with throbbing, and a sensation of great tightness in the bone; says the bone feels as if it would burst open. I gave it as my opinion that it was a case of abscess in the bone, and proposed an operation to evacuate it, to which she readily consented. After bringing her under the influence of chloroform, I made an incision down to the bone with a scalpel, and then perforated the bone with a small trephine, evacuating about two ounces of pus. The opening continued to discharge a small quantity of pus every day for five days. At the end of three weeks, the opening had entirely closed up, and she could walk without pain.

Mrs. G——, aged twenty-eight, has had a tumor upon the left side of the left mammal for the last four years. It is now as large as an orange. She has been married about six months, and is five months advanced in pregnancy. As her breasts are enlarging, she complains of laminating pain in the region of the tumor, probably from pressure upon the lactiferous tubes. I excised the tumor, which proved to be cartilaginous and non-malignant.

Miss J——, aged twenty-six, applied to me to open a bursa mucosa upon her right knee, as large as a lemon. The integuments

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over it were tense and tender to the touch. I punctured it with a small bistoury, and evacuated its contents. I repeated the puncturing every third day for nine days; after each puncture applying a bandage and compress. The compress and bandage were kept up for two weeks afterwards. There remains no sign of the tumor.

Matthew, a negro, aged thirty-seven, applied to me to treat him for eversion of the right upper eye-lid, constituting an ectropion, produced from an attack of acute conjunctivitis. The lid was everted, presenting a tumor the size of a large marble. I attempted to remove it by making deep incisions into it, and applying nitras argent as an escharotic, but the enlargement continued to increase. In three weeks it had attained the size of a hen's egg, hanging over the malar bone. Assisted by Dr. G. Hawkins, who administered chloroform, I carefully excised the entire growth away, commencing at the extreme corner of the eye-lid, dissecting it as far back as the sclerotic coat of the eye. The operation was slow and tedious on account of hemorrhage. After the operation, I applied a bandage and compress to restore the distended eye-lid to its proper position. There remains no deformity except a very slight inversion of the eye-lashes.

Mr. C——, aged fifty-six, a farmer, has been afflicted for the last nine years with an internal hemorrhoid. It protrudes at every defication, and has to be returned, or it becomes strangulated. It is attended with profuse hemorrhage; he is anæmic from loss of blood. The tumor is oblong, three inches in length, one and a half in breadth, and one inch in depth. I introduced my finger into the rectum, and caused the hemorrhoid to protrude. I then introduced a grooved director through the base of the tumor at two points; and by means of an —— probe, wound with a silk ligature, inclosed the hemorrhoid at three points, by tying the ligatures tightly around it. I then returned the hemorrhoid and ligature. Upon the fifth day I removed the hemorrhoid, the ligatures having cut through it.

Mr. B——, aged fifty-four, applied to me to remove an internal hemorrhoid of six years duration. The tumor was as large as a pullet's egg, with a neck to it, and near the verge of the anus. I gave him an enema of tepid water to evacuate his bowels, which caused the hemorrhoid to protrude. I tied a ligature tight around its neck, and returned it into the rectum. Upon the fifth day the hemorrhoid not being entirely cut through, I removed it with a scalpel.

Mrs. F——, aged twenty-eight, has had a tumor upon the labia coming for the last five years; says it did not interfere with her only in coition and parturition. She applied to a cancer doctor, who removed it with some kind of an escharotic, obliterating to a great extent the capacity of the vagina, so much so that the introduction of the index finger produced severe pain. I divided the constricton vagina with a bistoury, and kept the vagina distended with a bougie

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made of beeswax and tallow until the incisions healed up, thereby restoring the vagina to its full dimensions.

Dr. S. J. Starling performed the operation of evisceration upon Mrs. J——, aged thirty, in a shoulder presentation. The lady recovered and did well.

Dr. S. T. Hill, of Carrollton, amputated a negro man's arm for a fracture of the forearm, caused by getting it caught between the rollers of a sorghum mill. He recovered from the operation.

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REPORTS

FROM THE COUNTY OF WILCOX.

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REPORT ON THE WEATHER AND DISEASES OF WILCOX CO., ALA., FOR THE YEAR 1870.

BY E. D. McDANIEL, A. M, M. D., OF CAMDEN.

During the last twelve months Wilcox county has been visited by no migratory epidemic influence originating beyond her bounds, and by no contagion. What maladies have occurred have been derived from local and climatic, or endemic causes, and have been narrowly confined to the places where they originated. Of these I may mention—

1ST.—TYPHOID FEVER.

Five cases only of this form of fever have come to my notice, and there occurred one death, making the mortality twenty per cent. Of these cases one was isolated; the four others appeared to be connected and indicated transmission. Their history is this: A negro boy, about fifteen years old, was attacked on a plantation about three miles from Camden, in September, with fever, which resisted the antiperiodic treatment to which other seemingly similar cases which happened at the same time and place readily yielded. He was found to be growing worse and worse, and was removed by his employer to Camden, where he could have better nursing and closer medical attention. He was placed in a building formerly used as a kitchen, and distant not many steps from the family residence. After a severe illness of about three weeks he recovered. About one week after this patient left the premises a delicate young lady of the family, who had suffered in the previous spring from a spell of catarrhal fever, and had not afterward been in good health, was taken down with typhoid fever, and after a severe illness of nearly one month recovered. She had believed that the fever was contagious—had been afraid of contracting it, and had studiously avoided the boy and his apartments during and after his illness. Before this young lady had regained her strength sufficiently to leave her room, her eldest brother, robust and just fully grown, was seized by the fever, and died in the third week. A day or two after his death a younger brother was attacked, and recovered after a

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mild spell of four or five weeks. The other members of the white family, consisting of the father, the mother, and a young lady, had formerly had the fever, and now escaped. No case occurred among the visitors, some of whom aided in nursing. I have briefly given the history of these four connected cases of typhoid fever, not because it possesses any novelty, but, on the contrary, because such connected cases have many times before been observed in my vicinity.

2D.—MALARIAL FEVERS.

The cases of bilious fever were fewer in number than the ordinary annual average of the last ten years, and they were also rather mild. When promptly and properly treated they did well, and scarcely any mortality resulted from them.

Intermittents were rather widely diffused over the county, but though somewhat tenacious and prone to relapse, were not severe or pernicious. It is almost impossible to get reliable statistics of this form of fever, but I am sure that its mortality was for the past year lower than usual. In chronic malarial cachexia and tenaciously relapsing intermittents, I resorted with much satisfaction and success to the formula of Dr. Kumpé, of Leighton. As I have observed that in this formula the quinine is precipitated with some of the iron, when the alcohol is added, imposing the necessity of shaking well before using, I prefer withholding the alcohol or substituting an equal quantity of water for it. I also cordially approve of adding strychnine, as Dr. Wm. Desprez has admirably suggested. The formula will then stand as follows: Sulphate of quinine, two fluid drachms; liquor arsenite of potass., two fluid drachms; tincture chloride of iron, two fluid ounces; tincture opium, half fluid ounce; sulphate of strychnine, two grains; water, fourteen fluid ounces.

Dose for an adult, two teaspoonfuls in an equal quantity of cold water three times a day.

It strikes me that this very valuable formula might be still farther improved by the addition of muriate of ammonia.

Hemorrhagic malarial fever presents nine cases, of which two were fatal. The mortality of this form of fever, which in this county stood heretofore steadily at 33⅓ per cent., is here reduced to 22⅔ per cent. This reduction may be accidental and temporary, the number of cases from which the rate is estimated being so small, or it may be due to a decline in the intensity of the disease; or lastly, to some improvement in the treatment. Our county reporters do not remark any manifest decline in the average severity of the cases, though these this year, as heretofore, differ much in individual intensity. Neither do our practitioners find it in their power to succeed by inunction with quinine, or by injecting into the

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rectum quinine dissolved in water by aid of sulphuric acid—the injection being so irritating as not to be retained even with or after opiates; or by spirits of turpentine externally and internally used, or by calomel and quinine administered by the mouth, no matter what the doses employed or with what intervals or perseverance. In my preceding annual reports I indicated a hope that something might be done by hypodermic medication, in those appalling cases in which it seems out of the question to address treatment through the stomach. Dr. J. S. Lynch reports one case of hemorrhagic malarial fever—a very obstinate case too, which seemed to be promptly arrested by the hypodermic injection of sulphate of quinine. To his testimony as to the safety of using quinine hypodermically, with proper precautions in its preparation, a solution of the sulphate of quinine, by sulphuric acid, in ordinary pure spring water, I would invite your special attention. His precautions are that the vessels used be made scrupulously clean; that the acid be added slowly and watchfully, so as barely to accomplish the complete solution of the quinine; that the solution be carefully filtered, and that the injections be made only on the outer sides of the shoulders and thighs. He states that with these precautions he has introduced the solution subcutaneously over one hundred times, and has never once observed the least tendency to cellulitis or unpleasant irritation. He uses a solution of sixty-four grains to the ounce of water, and of this solution injects thirty minims, containing four grains of the sulphate of quinine, at one time, and for an adult makes four injections, placing one on the outer side and near the middle of each shoulder and thigh. I suggest transfusion in extreme cases.

3d.—Catarrhal Fever.

This very formidable disease does not present a high rate of mortality, but prevails so frequently, and so widely, and gives occasion to so many intercurrent local affections and complications, that its victims make up a large percentage of our total mortality. It rarely fails to pay us an annual visit, and generally assumes its worst forms from November to April. During the months of December, January and February last, a general catarrhal tendency was manifest, and many cases complicated with mucous and serous and some with parenchymatous inflammations presented themselves. About twelve cases of the disease, with accompanying or resulting pulmonary inflammation, and properly styled "catarrhal pneumonia," have come to my knowledge. Many of these were very severe, and some of the subjects advanced in years, and yet no death occurred—a result unusually favorable in this form of the disease. Doctors Jones and Matheson had the management of some of the worst of these cases, and made carbonate of ammonia the basis of the inter-

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nal treatment. Some few cases of meningitis appeared this year again, and all as complications of catarrhal fever. One patient—a lady of about sixty two years—in a family of which all the other members were suffering with catarrhal fever—some mildly, others rather seriously—had the ordinary symptoms of nasal and bronchial catarrh, and these symptoms were tenacious. Upon these supervened signs of progressive locomotive ataxia of the lower extremities, the lady being unable to walk without going into a run, or to stop without falling, or to guide her course. One day, after having suffered for a week or two in this general way and with some aching in the back, she was taken with a marked chill and great pain in the back; told her two daughters that she was going to have a fit, and actually went into hard convulsions. She did not complain of headache, and though dull and slow in comprehending, retained her senses and reason. After she had the convulsions her lower extremities became paralyzed, and remained so. Her breath was very offensive from the first. She became slightly salivated by a single dose of calomel. Her bowels were quiet, except when moved by purgatives. Her pulse was from 130 to 150, and small. Hydrate of chloral—fifteen grains every two to four hours—was used, but did not control the pain. Morphine was then tried alone, but though it relieved the pain it failed to induce sleep. Morphine and hydrate of chloral were then used conjointly, and, thus used, procured both ease and sleep. This patient died on the eighth day from the date of her seizure with convulsions, retaining her senses and reason to the last. This case happened in December, when the mercury was below 20° Fahrenheit. All the cases of meningitis that have yet come under my notice have occurred when the temperature was low for the climate and when the weather was damp, raw, and inclement.

I have thus, gentlemen, partially presented to you the medical history of the past very healthy year, by directing your attention to the few diseases that have visited us. I shall finish the history by endeavoring to convey to you a general idea, on the one hand, of the causes that were productive of what few maladies we suffered, and, on the other, of those that secured to us the very large measure of health we enjoyed.

In the early months of 1870, particularly in February and early in March, southerly winds prevailed and heavy torrents of rain fell. The earth became surcharged with moisture to such a degree that plantation work was greatly retarded. In the latter part of March, and in April and May, westerly and northerly winds prevailed, the rains ceased, the clouds dispersed, and the earth became dry. Early in June moderate showers passed about, but there was no wet spell or superabundance of rain until after the first of November, the usual termination of our fever season. The maximum temperature of the year was 102° Fahrenheit, the minimum 11°,

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the range 91°. The average temperature was unusually high, owing to the unusual dryness and protracted heat of the summer months. The area of soil in cultivation exceeded somewhat that of 1869, and took in rather more swamp land. Still, a great part of our best land is yet unfenced, undrained, unplowed, and is fast relapsing, under its dense growth of sprouts, and weeds, and grass, to the densely shaded condition of primitive woodlands. The atmosphere during the whole year was in constant, lively motion, so that not more than three sultry days occurred during the year, nearly all the others being freshened by stormy breezes. In October and November easterly winds prevailed, and, though chilly, were less burdened with moisture than air currents from that quarter usually are. In December there were heavy rain falls, and the thermometer ran low.

By comparing what I have now said of the diseases, morbid causes, and hygienic agencies during 1870, with a similar sketch of 1869, which I presented to you one year ago, you can hardly fail to be struck by the very great medical similarity of the two years. They presented similar spring seasons, saturatingly wet; similar summers, if not exhaustingly dry, yet oppressively and protractedly hot; similar incipient winters ruled by dampness and cool northeasterly currents; similar strong and ceaseless winds pervading the whole of both years, and similar areas of soil in like hygrometric conditions. They also presented a similar general exemption from sickness, and in what few diseases did occur a marked similarity in general and special character. You cannot fail to admire our great exemption from malarial diseases during both years, notwithstanding the excessive moisture, the intense heat, and the abundant decomposing vegetable matter; nor can you fail to trace this exemption to the admirable hygienic influences of the high winds that blew. Our high winds (with the exception of all such as come from any easterly point) are prominent hygienic agencies. High winds are the industrious, persevering, energetic scavengers which catch up and bear harmlessly away our dangerous malaria. But while I thus estimate, and others emphasize, the great value of the winds, which whisper health alike, whether they come to us from the mountains or from the sea, *I beseech you not to forget, nor to allow your intelligent friends outside of our profession to forget that our State, so favored by natural hygienic influences, still needs, and indispensably requires the sanitary measures of art, conspicuous among which stands thorough agricultural drainage, to render it the safe, happy and plenteous home of well-compensated and diversified labor.*

A Case of Post-partum Thrombus within the Pelvis, with Symptoms, Treatment and Result.

On the morning of December 15th, 1870, Mr. S—— came to me on the street, and told me that he might need me at his house dur-

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ing the day, as his wife was looking out for her second labor, and was already feeling some pains. Several hours after, say about 5 o'clock in the evening, he called on me saying that his wife wished we to go quickly to her relief. In a few minutes more I entered his gate, and hearing the screams of Mrs. S———, ran to her door, which was opened at once for my reception. Oh, Doctor, said she, be quick, be quick, there is something wrong. My finger was now on her pulse, which was good, though her countenance was expressive of panic and pain. I judged from her manner that the case was far advanced, and after hastily administering a dose of morphine, proceeded to make the required examination. The perinæum was rent along the median line from the commissure back to the anterior border of the sphincter ani, but the head of the child had receded until the lips of the wound were but slightly separated. This laceration, together with other damage, soon to be mentioned, was manifestly the work of the preceding pain, which the patient afterwards told me was the first really hard pain she had felt, and was terribly sudden and severe. The next pain, which came after the lapse of only a few minutes, expelled a finely developed child, very firm indeed, but only of the weight of — pounds. The continual complaints of the mother induced me to remove the child, and then the placenta with perhaps less than the average allowance of time for such offices. For a few minutes there was more comfort, but only for a few. The wild anxiety and pallor of face; the returning appeals for something to be done; the reiterated asseveration that the suffering was greater than could be borne, and yet was still increasing; and the palpable diminution of the pulse in volume and force, admonished me that something had occurred worse than the mere laceration of the perinæum. "I am suffering just as much," said the patient, "as before the child was born. I feel something just like a child's head distending me, and I am losing all power and feeling in my right knee and foot." This remark led me at once to examine into the cause of this distension and pressure, and the vaginal walls were found in apposition over in the left side of the pelvis—the whole vaginal space being invaded and occupied by a large elastic tumor—a thrombus or hæmatocele—the covering of which was the right portion of the vaginal membrane, this having been detached from the corresponding part of the bony pelvis and having no doubt carried with it a layer of adherent cellular tissue. The well ossified head of the child driven rapidly from the brim of the pelvis to its very outlet, by a single violent pain, had, most probably, instead of gliding normally through the vagina, carried with it or before it, the right wall of the latter, thus tearing asunder the underlying cellular tissue with veins, and perhaps arteries, of considerable size. So long as the pressure by the child's head and afterwards by the placenta was kept up, the extravasation was held in check; but after this pressure was removed, the extravasa-

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tion went on apace, thus giving rise to all the symptoms already detailed.

Some doubts arose in my mind whether it would be safe and proper to open at once the tumor, so large and suddenly formed as it was, discharge the yet warm fluid contents, reposit the displaced portion of the membrane, and keep it in place by filling up the vagina with cold wet cloths or sponges. If these should fail to prevent farther hemorrhage, no expedient would be left but to inject into the fresh cavity in the cellular tissue, and thus to present to the fresh orifices in the ruptured vessels, solutions of such styptics as perchloride and persulphate of iron. Embolism or dangerous coagula in the circulation might be the result. It was determined to leave the tumor to the pressure already applied to it by surrounding structures, until its contents could coagulate, the bleeding vessels more thoroughly retract and close, and the patient react, and then to operate. The pain gradully subsided after the tumor ceased to enlarge, and as no hopes were entertained of procuring simple adhesion of the separated tissues, no particular necessity or motive was felt for operating at the earliest practicable moment. On the 17th of December, about forty hours after the accident, with the valuable assistance of Dr. J. Paul Jones, the patient was put fully under the influence of chloroform: an opening about two inches long was made, commencing in the most dependent portion of the tumor, and extending upward in the direction of the womb; a clot, estimated at more than a quart, was broken up and discharged, and cold wet pieces of soft old cotton cloth were placed in the vagina so as to maintain a moderate and steady pressure. The patient was kept easy by opiates, chiefly morphine; the catheter which had been necessary during the presence of the tumor, was still needed during the use of the wet cloths and wet sponges, which were continued only five or six days; and the strictest rest was enjoined. There was no considerable discharge, if indeed any, that could be traced to the wound, until about the tenth day after the operation. An offensive mixture of clot and pus then came away, and for a few days after there was a slight show of pus. Tepid soap-water and simple tepid water were directed to be used daily after the cloths and sponges were discontinued. There was some complaint of soreness in the region of the injury for a few weeks, but recovery is now complete. March 1st, 1871.

Complete loss of nearly all the contents of the Pelvis, from sloughing, caused by injury received during Labor.

On the 2d of February, 1870, Castile Carson, a freedman, residing six miles from town, sent for me to see his daughter Lizzie. Lizzie was somewhere near thirty years of age, unmarried, had had

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several children at rather long intervals, and was now confined from the results of a labor which had set in ten or twelve days before, and had lasted four or five days. The statement of the two colored midwives, who had been with her in her labor, was, that the child, which was unusually large, was dead and putrid when born, and that they had extracted the after-birth by introducing the hand. They also stated that the patient had eaten regularly since the baby was born, but that she had not had any action from her bowels nor passed any urine, although there was a copious and continual flow of something coming from her. The house was filled with a most offensive odor. The patient's pulse was 130, small and weak, but her intellect was clear. Her knees were drawn up, and when any movement of her lower extremities was made, she screamed as though suffering from an attack of acute rheumatism. Her abdomen was hard and round, and was dull under percussion. A dose of castor oil had been administered the day before. An examination disclosed that the oil was operating, but that the contents of the bowels were coming not through the anus, but with the urine, in front of the sphincter ani: that the perinæum and posterior portions of the labia were sloughing away; that long membranous looking putrid shreds were hanging out several inches from the vulva; that the bladder and uretha and contiguous tissues were entirely gone; that indeed all the soft parts, including even the periosteum within the pelvis, were gone, except posteriorly, where, for a small space immediately back of the rectum, and on each side of it, the sacrum was still covered; that the anterior half of the rectum was completely eroded from about an inch above the sphincter ani to a point further up than the finger could conveniently reach, and that the womb was completely beyond the touch. The case was pronounced hopeless; anodynes administered; the pelvic cavity was kept washed out with a weak tepid solution of carbolic soap, copiously injected through a Davidson's syringe, and concentrated fluid nutriment directed. At my last visit, February 10th, the portions of rectum, and other soft tissues, which were found remaining at my first visit, were all gone, and the interior surfaces of the pelvic bones were exfoliating. The patient lived several days longer.

The cause of this terrific cellulitis and sloughing may have been:

1st. Bruising or protracted pressure inflicted by the head of the fœtus.

2d. Neglected intro-pelvic thrombus or hæmatocele.

Report of a Fœtus that could not be Born Alive on account of Excessively Large Chest.

Mrs. C——, a healthy lady, rather inclined to corpulence. the mother already of more than half a dozen children, expected to be again in labor some time between the 10th and 20th of November,

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1869. She, however, went beyond her count, and though unusually large and helpless, lingered on until the 25th of December, at which time labor came on. Nothing untoward occurred in the labor, until after the passage of the head which was not of extraordinary size and came out, occiput to symphysio pubis. The onward movement of the fœtus was now arrested, and though the pains had been stimulated by ergot, and were as good as could be desired, and though every assistance in my power was given, all that could be effected was rotation, which placed one shoulder in the sacrum and the other against the pubis. The cord was assiduously protected, and all resonable perseverance and force were employed in efforts to extract the chest of the child by axillary traction and other means. At last, after the lapse of what seemed to me to be at least thirty minutes, the child was felt to move, convulsively, several times in close succession, and then to become relaxed. It was dead, and even in its cadaveria relaxation was brought away from its mother only after a very protracted and varied application of very great efforts. It was not excessively large except in the trunk. It weighed only twelve pounds, but measured eight inches across the breast from the point of one shoulder to that of the other. By pressing the two shoulders towards each other, with all my strength, one hand being placed upon each of the child's shoulders, I could only reduce the measurement to seven inches. Ramsbotham tells us that there is preserved in the London hospital museum a fœtus whose shoulders are seven inches across, and observes that "such a prodigious bulk would necessarily occasion difficulty after the head had passed." As the average measure of the fœtal chest is under five inches, from shoulder to shoulder, it is not to be expected that a fœtus, with a chest measure of seven inches or more, can be born alive, except through a pelvis of correspondingly prodigious size.

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SURGERY OF WILCOX COUNTY.

BY J. PAUL JONES, M. D., OF CAMDEN.

Having been appointed to report on the surgery of Wilcox county, I have the honor to state that the number of surgical cases of interest that have occurred in my practice are inconsiderable, but I have several cases which have occurred in the county, with my other professional brethren, which I trust will interest the profession.

In July, 1862, Mr. J. T. C—— was wounded whilst in a recumbent position, the enemy occupying a position more elevated than himself. The ball struck the crest of the ilium near its anterior superior spinous process, making a notch of some inch in the bone, and dividing the ball into two nearly equal portions, the one gliding downward along the course of the iliacus muscle. This half of the ball was removed by Dr. J. C. Nott some two years after reception of the injury, and was extracted some four inches from the entrance. The other half could not be found at that time, and hope was entertained that it might have failed to have entered, being divided by bone, and that the discharge, which had been excessive, might cease. At various times small pieces of bone were extracted, and the discharge continued very considerable, which latter circumstance was proved to be due to the presence of some foreign body, either clothing, bone, or ball. Some months prior to the removal of the ball, an exploration was made with a small probe, and there was found a sinus of some four inches in length, extending downwards and backwards on the dorsum of the ilium. There could not be felt any foreign body, and its depth was too great to justify the use of the knife, and it was thought best to await further developments. In July, 1871, the patient complained of some soreness on taking his seat, and on examination there was found slight redness and some induration in the region in which the ball was afterwards found. This induration increased in a few days more, and it was determined by Dr. A. C. Mathison and myself to put the patient under chloroform and find the cause of the trouble. We accordingly made an incision of some three inches in length between the tuberosity of iscium and head of femur, and succeeded in extracting the remaining half of the ball. There was no sack formed around the ball, and it was removed nine inches from the point of entrance, after a lapse of eight years.

The following cases are reported by Dr. John S. Lynch:

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In conformity with your request, I report to you all the surgery of Wilcox county, west of the Alabama river, that has come to my notice. For your sake I must regret the meagreness of cases; but it gives me pleasure to state that there have occurred in my portion of this county, few cases or accidents requiring surgical aid or interference.

The following case is reported, although no attempt at surgical relief was made, because at the last meeting of the Alabama State Medical Association, strong doubts were expressed by some as to whether epithelioma of the cervix uteri ever occurred in the negro race:

April 30th.—Was called to see Melinda Watson, negress, aged about sixty years. She has suffered for a long time, but how long she cannot tell, from pelvic and lumbar pains, and a sanguineous purulent discharge from the vagina. Upon examination I found the cervix, the seat of cauliflower excrescences, the whole forming a large irregular tumor, and the womb itself was very much enlarged and tender. Believing that the organ was so much involved that nothing short of its entire ablation would give permanent relief, she was left to die with such comfort as could be obtained from vaginal washes and opiates. She died on the 8th of September. I may remark in this connection that I saw almost an exactly similar case in 1867, which was also a negro woman, and which also terminated fatally.

A fracture of the humerus through the lower third, accompanied with severe laceration and contusion of the soft parts, rendering the adaptation of splints almost impossible, was treated by simply flexing the arm at a little less than a right angle, and supporting in a sling. The broken bone was promptly united, and no deformity whatever resulted, showing the value of preserving proper position in these accidents.

In October last I saw two cases of concussion of the brain. In both of these there was some confusion of the intellectual faculties, in one amounting to delirium, after reäction. In both of these I ventured to depart from the traditional practice by giving a full dose of morphia, which promptly put them to sleep, from which they awoke free from any symptoms, except soreness from their bruises.

During the present month I have seen three cases of fracture of the femur. In one case the bone was broken in two places, viz: through the middle and lower thirds. In one through the middle and one through the upper third. In two cases the feature was oblique; in one transverse. One of them is being treated with the starch bandage and pasteboard splints, and promises a good result. The other two are being treated with a modification of Dessault's aparatus, with what result it is too early yet to prognosticate. One of the above cases also had a transverse feature of the skull near

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the fronto-parietal symphisis without depression. It is impossible to say as yet how tho case will terminate.

Dr. J. T. Gilmore remarks, on page 382 of the "Transactions of the Medical Association of the State of Alabama," for the year 1870, that "the doctrine of the local character of scirrhus is gaining ground." The following case is therefore reported as confirmatory of the soundness of the doctrine, although it occurred more than ten yeara ago :

Leah ——, a negress, slave of Mr. Joel Dumas, has a large, *very hard* tumor of the right mammary gland. It incloses the whole gland—is somewhat irregular and nodulated, and feels almost as hard as wood. Assisted by the late Dr. Albert Smith, I removed the entire breast on the fourth day of July, 1860, and dug out four small glandular bodies, exposed by the incisions and dissection. I applied four ligatures, and closed the wound by interrupted sutures and adhesive strips. It healed kindly and quickly, and the woman has had no return of the disease since. The tumor weighed four pounds and nine ounces.

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TRANSACTIONS

OF THE

MEDICAL ASSOCIATION

OF THE

STATE OF ALABAMA.

ANNUAL SESSION OF 1872, HELD IN HUNTSVILLE, MARCH 26TH, 27TH, 28TH

MOBILE:
PRINTED AT THE DAILY REGISTER OFFICE.

1872.

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PREFACE.

The Publishing Committee herewith present to the Members of the Association the Transactions for 1872.

The delay which has occurred has been caused by circumstances which the Committee have not been able to control.

Dr. C. H. Mastin, of Mobile, declined to submit to the Publishing Committee the paper read by him on Genito-Urethral Surgery; and it is therefore necessarily omitted.

The Committee would remind those who desire to have complete sets of the Transactions that copies of the three volumes previously issued can still be obtained by application to the Secretary. The price per volume is two dollars and a half.

The Committee also desire very specially to state to the Secretaries of other Scientific Societies, and particularly of other Medical organizations, that they will be glad to make an exchange of Transactions; not alone for the current year, but as a permanent arrangement. The Medical Association of the State of Alabama desires to obtain, as far as possible, complete sets of the Transactions of all the Medical Societies in

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this country. These will be carefully preserved. All favors of the character mentioned will be gratefully appreciated and cheerfully reciprocated.

All of which is respectfully submitted.

JEROME COCHRAN, M. D.,
GEORGE A. KETCHUM, M. D.,
JOHN T. GILMORE, M. D.,
Publishing Committee.

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MEDICAL ASSOCIATION

OF THE

STATE OF ALABAMA.

ANNUAL SESSION OF 1872,

HELD IN HUNTSVILLE, COMMENCING MARCH 26, 1872.

FIRST DAY—TUESDAY, March 26.

The Association assembled in the Huntsville Court House, and was called to order at twenty minutes before 11 o'clock A. M., by the President, Dr. T. C. Osborn, of Greensboro.

Prayer was offered by the Rev. Dr. Ross.

The following Delegates and Permanent Members were in attendance:

DELEGATES.

Hale County, Greensboro Medical Society—Thos. Childress Osborn, M. D.; Thos. O. Summers. M. D.

Jackson County Medical Society—J. S. Bankson, M. D.

Jefferson County Medical Society—Mortimer H. Jordan, M. D.

Lee County Medical Society—Levin W. Sheppard, M. D.

Limestone County Medical Society—J. R. Hoffman, M. D.; M. D. Richardson, M. D.

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Madison County Medical Society—Flemming Jordan, M. D.; Geo. D. Norris, M. D.; Henry W. Bassett, M. D.; John J. Dement, M. D.

Mobile Medical Society—Daniel E. Smith, M. D.; Edmund Pendleton Gaines, M. D.; George A. Ketchum, M. D.; William Henry Anderson, M. D.; Jerome Cochran, M. D.

Mobile Pathological Society—Claude H. Mastin, M. D.; William C. Hicklin, M. D.; William Henderson, M. D.; O. L. Crampton, M. D.

Medical College of Alabama—Frank Armstrong Ross, M. D.

Providence Infirmary, Mobile—John Taylor Gilmore, M. D.

Montgomery Medical and Surgical Society—Job Sobiesky Weatherly, M. D.; Thomas Alexander Means, M. D.; Walter Clark Jackson, M. D.

Perry County, Uniontown Medical Society—D. E. Barger, M. D.

Pickens County Medical Society—S. L. Bonner, M. D.

Tuskaloosa County Medical Society—John Little, Jr., M. D.

Wilcox County Medical Society—John S. Lynch, M. D.

Medical Society of North Alabama—Louis H. Sadler, M. D.; Louis W. Desprez, M. D.; William Desprez, M. D.; James Kyle, M. D.; Joseph P. Pride, M. D.; Andrew Jackson Sykes, M. D.; James W. Gilbert, M. D.; Calvin A. Crow, M. D.

PERMANENT MEMBER.

George Ernest Kumpé, M. D.

N. B.—The foregoing list contains all the names on the register, but Drs. William Desprez and T. O. Summers, Jr., registered on the 27th, and Drs. J. P. Pride, A. J. Sykes, and J. W. Gilbert on the 28th.

After the calling of the roll of Delegates, the address for the Committee of Arrangements, welcoming the Association to Huntsville, was made by Dr. J. J. Dement, of the Madison County Medical Society.

DR. DEMENT'S ADDRESS.

Mr. President and Gentlemen of the Medical Association of the State of Alabama:

In behalf of the Physicians of Madison County, I welcome you to Huntsville. This being your first annual session in this section of the State, and very few of the physicians of North Alabama having attended your former sessions, you come amongst us comparatively as strangers in person; but having, with great pleasure and pride, read your annual volume of transactions we know you all well, and are well acquainted with the purposes for which you are here assembled.

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We have witnessed, with intense interest and satisfaction, the increasing strength of your organization, as it rolls from one portion of the State to another. A small volume of transactions emenated from your reörganization at Selma, one of more than doubled in size from your session at Montgomery, and another of near four hundred pages as the result of your labors at Mobile a year ago, all filled with valuable and important matter.

We hope your present session may be still more profitable, and that each succeeding one may increase in interest and importance, and that your organization may continue to grow until every physician in this commonwealth may be enlisted under its banners; and may the day soon come when, under your searching inquiries after truth, quackery, with all its attendant ills, may be forever banished from our midst, and the practice of our noble profession be conducted in accordance with principles developed by your accumulated observation and scientific investigation. Again, gentlemen, in the name of the physicians and citizens of Huntsville, I welcome you to our city.

The Annual Address of the President was then delivered by Dr. T. C. Osborn. It will be found in its proper place.

On motion, the address of the President was referred to a committee of three, consisting of Drs. H. W. Bassett, M. H. Jordan and John Little, Jr.

The Secretary, Dr. Jerome Cochran, read his report, which, on motion, was received and approved.

ANNUAL REPORT OF THE SECRETARY.

To the President of the Medical Association of the State of Alabama:

The work which has been done in my office since our last annual meeting may be briefly summed up as follows:

Soon after the adjournment of the Association I prepared the Minutes of the Proceedings, and arranged the Transactions for publication; and as soon as I could get a list of the appointments, which under the constitution are made by the President, the manuscript was placed in the hands of the printer. In the preparation of the whole volume I acted under the instructions of the Publishing Committee. The volume itself is one of which, on the whole, the Association may well be proud; and, with one ungenerous exception, has received the commendation of the medical press all over the country. It contains three hundred and fifty-six octavo pages, and has been produced at an expense of over six hundred dollars.

I am sorry to have to add that the funds on hand proved insufficient for the payment of this amount, so that for the first time since the reörganization of the Association at Selma it has been obliged to submit to the odium of being in debt. The entire deficit was $92 75. Of this amount, to meet some urgent claims, I, with the consent of the President, raised $30 00 by the advance of their dues for the year just commencing of three of our members, namely: Dr. E. P. Gaines, Dr. Goronwy Owen, and Dr. C. Toxey. The remaining $62 75 I settled myself in order to avoid the annoyance of repeated duns. I cannot doubt that the Association will approve of this course, and make good the amounts advanced. It will be remembered that I raised towards defraying the publication of the volume for 1870 the sum of $215. I might have done something of

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the same sort for the last volume if untoward circumstances had not prevented. At the time the last volume was passing through the press my health was so feeble that I was not able to canvass the city for advertisements, which I would otherwise have done.

During the month of September I prepared, by order of the President, a memorial to the Legislature of the State for the enactment of such laws as would favor the collection of physician's fees, and distributed it, together with a circular letter of the President on the same subject, to the various medical societies of the State for signatures. The memorial was very generally signed, and was presented in due time to the Legislature; but that body in its wisdom did not think proper to grant the relief prayed for, and the grievance in question remains the same as before. Copies of both the documents referred to are appended to this report.

The organization of new societies has not made much progress since my last report. Indeed, only one new medical society has, so far as I know, been organized in the State, namely: the Mobile Pathological Society. I am, perhaps, somewhat to blame for this. In former years I have exerted myself to stir up the physicians of the State to the importance of organizing local societies and placing themselves in communion with the Medical Association of the State. In the year just passed, bad health, protracted during several months, and the long-continued pressure of more urgent claims upon my time, together with certain private reasons which need not be specially mentioned, have, all taken together, interposed obstacles of so serious a character in my way that I have attempted very little in this direction; and what little effort I have made has borne no fruit.

I desire to call the attention of the Association to a custom which has obtained in our previous meetings a certain sort of recognition—I mean the custom of fixing by vote of the Association some particular hour for the reading of some particular paper, so as to interfere with the regular order of business. It is certainly a custom more honored in the breach than in the observance. It retards the progress of business; makes encroachments on the time of the Association, which is always limited; and hints at invidious distinctions among the members, who ought all to stand on the same footing of perfect equality in any privilege or obligation which belongs equally to all. What right have we to assume of some particular member that he is of so much importance as to make it a graceful and proper thing to arrange for his special convenience and honor a set time for reading anything he has written? Is it not more in accordance with fair play that all shall be treated alike in this matter, each man taking his chances, and each paper presented at its own proper time.

I am directed by the Publishing Committee to state that, under all the circumstances of the case, they have deemed it proper not to include the paper of Dr. C. H. Mastin, of Mobile, on "Internal Urethrotomy," in the volume of Transactions for the past year. The grounds for this action are these, namely:—1. That to publish all the papers placed in the hands of the committee would involve an expense which the treasury of the Association was not able to meet. 2. That Dr. Mastin was not a member of the Association, and your committee doubted the propriety of publishing the productions of gentlemen who had not identified themselves with the Association. In view of these considerations the committee decided to refer the paper of Dr. Mastin back to the Association for its further consideration.

There is one other thing that I desire to mention, and that has reference to the duties, labors and responsibilities of the Secretary. It is an office of the very first importance to the Association—an office upon which, more than any other, its success and prosperity depends. It is an office

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to which much labor attaches and very little honor. The preparation of the minutes, extending usually to seventy-five or one hundred printed pages, is in itself no small labor. The arrangement for the printer of the various contributed articles, so that they may go to the public in a shape that will not make their author's blush, is also a considerable labor, involving sometimes the rewriting of the whole article. The proof reading is another considerable labor—a labor so considerable that book publishers estimate the cost of proof reading to be equal to one-half of the cost of composition. To bring the matter home to your apprehension, the reading of the proof of last year's volume of Transactions, in a first class publishing house, would cost over one hundred dollars. Add to this the time and energy consumed in the correspondence necessarily attaching to the position, and the expense of attending the meetings, and you will begin to realize that the position of Secretary of the Association is not by any means a sinecure. I have filled this position now for four consecutive years. I have attended every meeting at my own private expense. I have even paid the annual assessment of ten dollars regularly as other members have. I do not say that for this the Association owes me anything—not even thanks; but I think I can say that I do not owe the Association anything—except gratitude for the confidence which it has reposed in me. I have done the labor of the office cheerfully. It has indeed been to me a labor of love, and my sufficient compensation has been the hope and the belief that I was doing my profession some service. I mention the matter simply to pave the way to some suggestions as to the future policy of the Association with reference to their Secretary—suggestions which could not be properly weighed without some such preliminary statements. The suggestions I have in mind are these:

The Secretary ought to receive a regular salary of not less than one hundred dollars, and in a few years, when the resources of the Association have increased sufficiently to warrant it, the sum ought to be much larger than this. I do not think the Secretary ought to make any money out of the Association, but he ought to be able without taxing himself to employ such clerical and other assistance as would enable him to get rid of as much of the labor which I have mentioned as possible. You understand, I hope, that I am not speaking for myself. I am accustomed to do a great deal of work for nothing; and am willing to do a great deal of work without compensation in money, or in money's worth, for the advancement of any cause in which I feel deeply interested. The Association voted at the last session to pay the Secretary's necessary expenses for the future. I have informed the President that I should decline to accept the arrangement, preferring to pay my own expenses—at least until the income of the Association should be largely increased. My sole object is to take advantage of the knowledge which my experience in the office has given me, so that at the proper time the Association may act advisedly in the premises.

For all the money transactions which I have been engaged in for the Association the Treasurer has my vouchers.

All of which is respectfully submitted.

JEROME COCHRAN, M. D., *Secretary.*

Dr. Weatherly had some strictures to make on a portion of the report, which are here given as written down by himself:

Dr. Weatherly stated he had some objections to Dr. Cochran's report in reference to the volume of transactions. He thought the cost too high, and said that there were at least two articles in the volume that ought to

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have been left out. One, delivered by himself—a copy of which was not furnished for publication, from the fact that the Association took no action on it, and he considered it private property. The other, an article by Dr. Cochran, which had been published previously in the Mobile Register, and making forty or fifty pages in the transactions, at a cost of probably one hundred dollars.

Other articles might have been left out, as he thought it unnecessary to publish everything said before the Association.

CIRCULAR LETTER OF THE PRESIDENT.

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA,
OFFICE OF THE PRESIDENT,
GREENSBORO', ALA., September 25, 1871.

My Dear Sir—As President of the Medical Association of the State of Alabama, permit me to call your attention to the inadequacy of the laws of collection, and the imperfect and vexatious manner in which physicians are compelled to proceed in the collection of their fees for services rendered professionally.

At the March term of the Circuit Court, after the trial of several such cases, Judge Clark, of North Alabama, said: "The laws of the State, as regards the collection of physicians' dues, are inadequate, and ought to be amended." This fact is so patent to every one that it is unnecessary that I should go into particulars, or make an urgent appeal to your interest in the subject.

A petition to have the laws reformed was gotten up and sent by the Medical Society of North Alabama to the last Legislature, and the application was singularly snubbed, ignored and disregarded; yea, ridiculed by a member, who said "physicians were already too well paid, and ought only to get forty cents a mile." But it is wonderful that the said honorable member should have forgotten that he was at that moment receiving forty cents a mile *going and returning*, besides eight dollars per diem, to ridicule our honest and just petition for redress of grievances!

The last Legislature passed laws protecting landlords and others, and amongst this class we single out the law granting protection to livery stable keepers. No. 58 in the acts of 1870 and 1871, which empowers livery stable keepers to advertise and sell stock to pay their charges for keeping and feeding said stock! With pretended ideas of even handed justice, the same Legislature singularly refused to grant the same kind of protection to the medical profession!! Now there are about 1,800 physicians in the State, who are paying an average of $20 each for licenses, which will aggregate about $36,000, and surely for that amount, leaving out of question the eminent services of the profession, which no one can be so hardy as to deny, some protection ought to be afforded by the State to the infamously defrauded physician, whose services are demanded upon all occasions, irrespective of the wear and tear on their own health, and the *cash expenses* to which they are continually subjected.

Having in view the concert and unanimity necessary to secure for ourselves protection before the law in the collection of our just claims, I beg you will sign and return to me the accompanying petition without delay, and that you will also secure the signatures of all the medical men in your vicinity. It is also *very desirable* that you should exert every available influence upon the Representative to the Legislature from your immediate county.

Respectfully and cordially yours,

T. C. OSBORN, M. D.,
President Medical Association State of Alabama.

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PETITION OF THE PHYSICIANS OF THE STATE OF ALABAMA.

To the Honorable the Senate and the House of Representatives of the State of Alabama:

We, the undersigned, physicians practicing in the State of Alabama, would most respectfully ask your honorable body to take into consideration the great disadvantages under which we labor in the collection of our fees for medical advice.

We most respectfully represent that farmers and farm laborers when stricken with disease very seldom have ready money on hand to pay for the medical attention necessary to restore them to health and usefulness.

In most cases their crops are made over to their merchants by liens or deeds of trust, which swallow up the whole proceeds of the crops when they come into market, leaving nothing to pay the attending physician, without whose services in many instances the crops could never have been made.

In the case of the hired laborer the condition of things is even worse; it being customary for him to give a lien on his crops to secure payment for supplies, so that at the end of the year he is unable to satisfy any other creditor than the lien-holder, nothing at all being left to pay for medicines and medical attendance, which are as necessary in sickness as food and clothing are in health.

Believing that the system of contracts by liens, mortgages, and so forth, cannot be abolished; and knowing that deeds of trust having priority have been renewed to the merchants from year to year, to the exclusion of other creditors; and it being also true that physicians are prevented from securing such liens by various considerations, one of which is that in more than half the cases the expenses of the lien would exceed the amount of the bill; your petitioners can see no means of relief except through the interference of the legislative power of the State.

We therefore pray the enactment of a law giving to physicians a standing and statutory lien upon all farm crops, to take precedence of all other liens and claims of whatever nature, with the one exception of the lien of the landlord, which ought to have priority; and with the provision that this law shall be applicable only to physicians who are graduates of respectable medical colleges, and to physicians lawfully licensed by a Board of Censors or Examiners, acting under authority of the State.

We also most respectfully represent that the exemption laws at present in force in the State of Alabama operate with peculiar harshness when applied to the claims of practitioners of medicine. The services of physicians necessarily involve a different sort of obligation from that which obtains in ordinary transactions. A grocer, a merchant, or a mechanic can easily and properly refuse to extend any accommodation to persons who disregard their obligations and fail to pay their debts. But it is not so with physicians. The commonest dictates of humanity, as well as the immemorial traditions of our profession require that we should extend our services and our professional skill to all who stand in need of them—that is to say, to all who suffer from any bodily affliction. But, still further, even if we could harden our hearts against any particular individual from whom we had received bad treatment, what are we to do when the families, the wives and the innocent children of such persons, require our ministrations? The relief which our art enables us to bestow ought to be given, but it is hard indeed that in such cases our time and skill, which is all the capital we have, should be expended without reward; that we should be forced on grounds of humauity to labor for the families of dishonorable persons who are really able to pay for our

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services, but who laugh at our claims because of the legal immunity conferred by the exemption laws of the State.

We therefore pray the enactment of a statute excepting the lawful and reasonable pecuniary claims of practitioners of medicine from the operation of the laws of the State exempting certain property from execution for debt; and this also with the provision that this exception shall be made in favor only of physicians who are graduates of respectable medical colleges; and of physicians lawfully licensed by Boards of Censors or Examiners acting under authority of the State.

In conclusion, we ask for our petition the consideration of your honorable bodies on the ground that we are good and law abiding citizens and tax-payers of the State; and on the further ground that our benefactions to the poor would amount, if estimated in money value, to many hundreds of thousands of dollars annually. And, as in duty bound, your petitioners will ever pray, &c.

The report of the Treasurer, Dr. W. C. Jackson, was read and, on motion, received and approved.

TREASURER'S REPORT.

W. C. JACKSON, M. D., Treasurer,
In account with Medical Association of the State of Alabama.

1871. DR.

March 21—To balance on hand	$143 97	
Dues of Delegates	500 00	
Dues of Permanent Members	80 00	
		$723 97

1871. CR.

April 20—By expenses last session	$ 75 00	
By expenses Publishing Committee	628 00	
By expenses Treasurer	17 00	
		$720 00
1872.		
March 26—To balance on hand		$3 97

There is still due the Association the sum of ten ($10) dollars, annual assessment, from Dr. L. S. Green.

All of which, with vouchers, is respectfully submitted.

W. C. JACKSON, M. D., *Treasurer.*

Reports of Standing Committees being next in order, Dr. Kumpé, Chairman of the Committee on New Constitution, stated that there were no members of the committee present except himself, and asked to defer the report until the next day. Granted.

Committee on Asylum for Inebriates and Opium Eaters, Dr. P. Bryce, of Tuskaloosa, Chairman. No report. On motion the committee was continued.

Committee to memorialize the Legislature with reference to recommendations suggested by Dr. F. A. Ross in his annual address as President at the meeting in Mobile in 1871, Dr. J. M. Williams, of Montgomery, Chairman. The Chairman not being present, and

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no formal report having been prepared, Dr. Weatherly made a verbal report to the effect that the recommendations in question had been presented to the Legislature, but without any practical results. On motion, the committee was continued.

Committee on Purchase of Marine Hospital reported as follows, and, on motion, was discharged:

REPORT OF COMMITTEE TO MEMORIALIZE THE LEGISLATURE ON THE PURCHASE OF THE U. S. MARINE HOSPITAL AT MOBILE.

The committee appointed for this purpose have not been able to make any progress, for the reason that the United States Congress has not authorized the sale of the Hospital, and it has not been possible as yet to obtain the authority of the United States granting the sale.

J. F. HEUSTIS, M. D.
J. S. WEATHERLY, M. D.
WM. O. BALDWIN, M. D.
T. C. OSBORN, M. D.
} Committee.

The committee to prepare a tribute of respect to the memory of Dr. Robinson Miller, of Mobile, deceased, reported as follows:

The committee appointed to prepare resolutions expressive of the sentiments of the members of the Medical Association of Alabama on the occasion of the death of our associate, the late Dr. Robinson Miller, submit the following:

Resolved, That in the death of our honored associate we have to deplore the loss of a most faithful servant to our noble profession, who conscientiously and ably performed every duty, public and private, with which he was entrusted; who in his social relations was eminently pure, truthful and reliable, with a heart always open to the calls of charity, and a hand ever ready to assist, regardless of self or consequences.

Foremost in giving his professional aid and friendly sympathy, not only to his professional brethren, but to the stranger, wherever and whenever a call was made for the relief of the suffering poor he was prompt to respond, and will always be gratefully remembered for his generous devotion and disinterested labors during the years when pestilence swept our Southern cities.

When War, with all its demoralizing effects, pressed heavily upon us, he was always at his post, faithful to his trust and cheerfully performing his duty, winning confidence and friendship from all who knew him.

Upon the return of peace (at least such peace as we were permitted to have), he sustained himself with the same unfaltering honor that had always marked his career, true to his profession, true to himself, and true to his native South.

When called to the Professorship of Obstetrics and Diseases of Women and Children in the Medical College of Alabama, he filled the chair with distinguished ability and rapidly won his way to the love and confidence of his class—working, as ever before, faithfully to the end, until his failing health compelled him actually to take his bed.

Cut off when many years seemed yet before him to increase his reputation and usefulness, with zeal and ambition still strong and active, beloved by his associates, trusted by all—we cherish his memory and mourn the loss of his kindly presence.

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Resolved, That, as members of the State Medical Association, we hereby record our high appreciation of his worth as an associate and friend, and our admiration of his unsullied reputation.

Resolved, That a copy of these resolutions be preserved in the archives of the Association; and also that a copy, signed by the President and Secretary, be sent to the family of the deceased.

J. F. HEUSTIS, M. D.
J. C. HARRIS, M. D.
E. D. McDANIEL, M. D. } Committee.

The Committee on National Medical College, Dr. J. S. Weatherly, of Montgomery, chairman. No report. Committee discharged.

New business being in order, Dr. Jerome Cochran read a paper on Public Hygiene and submitted a plan for the organization of a State Board of Health, as follows:

DR. COCHRAN'S PAPER ON PUBLIC HYGIENE.

State Medicine is a thing of quite recent growth. As a distinct branch of medical science it has arisen within the last few years in England, where already it has become a great power for good. "It is, as I understand it," says Dr. Bowditch, the distinguished President of the Massachusetts State Board of Health, "a special function of State authority, which, until these later days of scientific investigation, has been left almost wholly unperformed, or has been exercised only imperfectly and spasmodically under the stimulus of some great danger, such as the coming of plague, cholera, small pox, or some other malignant disease. By this function the authorities of a State are bound to take care of the public health, and to investigate the causes of epidemic and other diseases, in order to elicit such knowledge as will enable every citizen to live as long a life as nature under the most favorable conditions will allow him, and as healthy a life as possible. As the chief aim of every physician in private practice is to cure every disease which is submitted to his care, so the far higher aim of State Medicine is, by its thorough and scientific investigations of the hidden causes of diseases that are constantly at work, to prevent the origination of such diseases—by the destruction of the conditions out of which endemics and epidemics arise to make endemic and epidemic visitations impossible." Dr. Farr, in a recent and able address, as President of the Section of State Medicine in the British Medical Association, pursues the following lines of thought upon this subject: "Public hygiene is a want as much as air, and public roads, and abundant water, and as such must be cared for and paid for by the community. A sanitary code is needed, with proper sanitary officers; for otherwise a code would be a dead letter. Hence a Ministry of Public Health will eventually be needed for the British Empire. Such a ministry would divide itself into four departments—administration, medicines, engineering, statistics—each of

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which should be organized so as to work in harmony with a council of health and executive heads. Each town should have its board of health and its health physician in communication with and in aid of the Central Board of Health. The primary object of public medicine is to prevent disease, but it also surrounds the sick with conditions most favorable to recovery, and diminishes the death-roll of the people. But supposing every condition favorable for the perfect operation of the powers of State Medicine, we should still see grave defects in many persons; shortcomings in others; in many, organic degeneracies; in many, criminal depravities. All these it should be our object to remove. Hence the final problem of public medicine is this: How, out of existing seed, to raise races of men to the highest degree of human perfection."

These quotations from distinguished men are full of suggestion. The health of the citizen should be very dear to the State, an object of constant solicitude and wise care. It means, practically, ability to labor, and makes all the difference, so far as this world's toiling millions are concerned, between prosperous homes and happy families, and the peaceful enjoyment of useful lives under their own vines and fig trees; and the dragging out of miserable years in poor-houses and hospitals, and dishonorable dependence on public charity. Indeed, it will be conceded without elaborate argument that government can engage in no more useful, in no more honorable, in no more profitable work than the prevention of diseases, the improvement of human health, and the prolongation of human life. "These are my jewels," said the Roman mother, pointing to her sons; and the jewels of the State are the brave men and virtuous women who live within her borders.

What constitutes a State?
  Not high-raised battlements, or labored mound,
Thick wall, or moated gate;
  Not cities proud, with spires and turrets crowned;
Not bays, and broad-armed ports,
  Where laughing at the storm rich navies ride;
Not starred and spangled courts,
  Where low-born baseness wafts perfume to pride.

No. *Men*, high-minded *men*,
  With power as far above dull brutes indeed,
In forest break or den,
  As beasts excel cold rocks and brambles rude.
Men who their duties know,
  But know their rights; and knowing, dare maintain;
Prevent the long-aimed blow,
  And crush the tyrant while they rend the chain.
These constitute a State;
  And sovereign law, that State's collected will,
O'er thrones and globes elate,
  Sits empress, crowning good, repressing ill.

It is therefore to this end, to the production of men and women

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of the highest grade of physical, mental, and moral accomplishments, that our political economy and governmental policy should direct the large resources of the State; it being quite demonstrably certain that it is from such investments that the largest returns will be realized, and realized, too, in such form as that gold and silver cannot be weighed as the price thereof.

Without adequate organization, and without the fostering care of the State, Medicine has already accomplished a great deal for the amelioration of the public health. The great boon of vaccination, by which small-pox, that most dreaded of the scourges of the middle ages, has been robbed of its terrors, is so well known and so well appreciated by intelligent people that I need only to mention it.

But other instances are not so familiar. Look, for example, at the connection between typhoid fever and the decomposition of organic substances. It is true that there is another cause, a specific typhoid poison, which is necessary for its development, but the fact still remains that without filth, without putridity, the disease is not born. The evidence connecting this disease and all its kindred with uncleanliness, putridity, decomposing matter, and particularly with the excretions of the bodies of men and animals, conveyed into the human system by air and by water, is given in great detail in the English government reports of the past fifteen years, and can hardly fail to convince any one who will examine them without prejudice. The plagues and pestilences of the middle ages, which sometimes swept away one-third of the inhabitants of Europe, are examples of the virulence of such diseases when people were huddled together in great towns, without drains or sewers, or other provision for the removal of the foul matters which proceed from human beings and the various processes of society. As civilization advanced, from various causes greater attention has been paid to cleanliness and ventilation, and with precisely equal step these pestilences have been shorn of their power. The great fire of London, which seemed a destructive visitation of Providence, proved a blessing in disguise; because in place of the low, dark, damp, dirty hovels which were swept away, houses were erected from which the fresh air and the light of the sun were not excluded, and, as a consequence, the great city has not since been ravaged by the desolating pestilences with which it had been before so familiar. And so it is everywhere. As improved works of sewerage and water supply go into operation in certain districts the death rate falls, and disease becomes less and less terrible.

As another example, let us take that most dreadful of all the physical maladies from which humanity suffers, namely: consumption. It is more destructive than cholera or yellow fever. The ravages of these diseases are restricted to certain latitudes or to certain seasons, and although occasionally they levy heavy tributes of lives, their appetites are soon satiated, and they allow us long periods of immunity. But consumption is at work in all civilized

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countries day and night, and summer and winter, without pause or weariness. It has been regarded by some as a special mode of death intended by Providence to reduce a redundant population, as feeble trees in a forest are crowded out of existence by their more vigorous neighbors. Yet the investigation of its natural history through the aid of vital statistics and the comparison of great numbers of cases promises to lead to the discovery of its causes—that is to say, of the conditions under which it originates—and we may fairly hope that when these conditions are fully recognized they may be avoided. Two of these conditions have already been revealed and are influencing practice and saving lives. One of them is thus stated by Mr. Simon, medical officer of the English Privy Council, and has been abundantly proved by him: "In proportion as the people of a district are attracted to any collective indoor occupation, in such proportion, other things being equal, the district death-rate by lung diseases will be increased." This cause, "collective indoor occupations," may be regarded as almost synonymous with the habitual inhalation of air rendered foul by respiration. Dr. Bowditch, from a comparison of statistics by physicians from all parts of Massachusetts, showed several years ago that among the prominent causes of consumption is exposure to soil moisture. In England this same law has since been even more strikingly shown. In 1855 and 1856 inquiries were made, under government authority, into the effect of drainage works and other sanitary regulations designed to promote the public health. In pursuance of this inquiry twenty-four towns were selected in which improved drainage had been established. It appeared that while the death-rate had greatly diminished, it was most strikingly evident in the smaller number of deaths from consumption, the diminution of mortality from this cause amounting in some cases to as much as twenty per centum.

I will mention under this head but one other example, but that one is of great and special importance to the dwellers in tropical and sub-tropical countries. I mean all that large class of diseases, including fevers, neuralgias, dysenteries, etc., which are classed together under the comprehensive term "malarial"—diseases which constitute at least one-half of those which physicians are called to treat in the State of Alabama. Of these maladies our knowledge is singularly perfect. We know their entire natural history. We know that they are caused by the introduction into the human system of a specific poison, and we know exactly under what conditions this specific poison springs into malignant life. Wherever water is exposed to the influence of the sun under such circumstances as prevent its easy and rapid evaporation, there the malarial poison armed with the power of pestilence is born into the world. Now it is evident that, with this knowledge to direct us, it would be quite possible to put an end to malarial disease in any special locality by destroying the conditions necessary for the generation

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of the malarial poison. Make this mischievous conjugation of the water and the sun impossible by thorough drainage and the whole pestiferous brood of malarial maladies will be utterly abolished and destroyed; surely a consummation most devoutly to be wished.

I think I have made it sufficiently evident that the State may derive incalculable benefit from the skilled investigations of properly trained medical men into the conditions and causes of diseases, and the consequent determination of the means necessary for their prevention. Already the importance of State Medicine is beginning to attract the attention of State governments, and two States of the Union have recently established, by act of the Legislatures thereof, State Boards of Health. These two States are Massachusetts and California, the one where the sun rises and the other where it sets. Massachusetts led off in the good work in an act dated June 21st, 1869; and her example was imitated by California only a few months ago in an act of substantially the same import. The Massachusetts Board is composed of seven members, serving terms of seven years, so arranged that one member goes out of office every year. The appointments are made by the Governor, with the consent of the Council. The duties of the Board are prescribed in the second section of the act, as follows:

"SEC. 2. The Board shall take cognizance of the interests of health and life among the citizens of this commonwealth. They shall make sanitary investigations and inquiries in respect to the people, the causes of disease, and especially of epidemics, and the sources of mortality and the effects of localities, employment, conditions and circumstances on the public health; and they shall gather such information in respect to those matters as they may deem proper, for diffusion among the people. They shall advise the government in regard to the location of any public institutions. They shall, in the month of January, make report to the Legislature of their doings, investigations and discoveries during the year ending December thirty-first, with such suggestions as to legislative action as they may deem necessary."

All honor, say I, to Massachusetts and California, for the noble example they have set in this matter.

At the last meeting of the American Medical Association, which was held in San Francisco, in May last, this subject of State medicine and public hygiene was brought before that august assemblage of the medical wisdom of the nation. Their views were expressed in the following preamble and resolutions, which were unanimously adopted:

WHEREAS, The science of hygiene and its corollary preventive, a State medicine, are subjects eminently congenial with the purposes of this Association, inasmuch as they have for their objects the pre-

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servation of human life, and the removal of those causes of disease and death which it is in the power of legislation to ameliorate, if not eradicate; and, Whereas, the great fundamental idea that was made the prominent element for medical association, and that led eventually to our national organization, was a higher standard of medical education; and, Whereas, the present system adopted by our colleges provides more and more satisfactorily for the thorough qualification of the graduate, as regards the principles and practice of his art, but does not provide at all adequately for the special study and cultivation of questions of State medicines; therefore, be it

Resolved, That this Association recommends a distinct and separate chair of hygiene, independent of physiology, to be established in all our medical schools, and constituted a requisite curriculum preliminary to that diploma which confers one of the highest honors of the profession.

Resolved, That the inauguration of the enlarged philanthropic policy of State medicine in Massachusetts and California is worthy of our special approbation, and commends itself to other States for imitation; and, therefore, the President of this Association is hereby authorized to nominate, at this session, a committee, consisting of one physician from each State in the Union, to memorialize the Legislatures of all the other States to follow the example of one of the oldest, most enlightened and conservative, as well as of one of the youngest, most progressive and enterprising members of our glorious confederacy, who have led off in the right way, and at the right time, for the prevention of disease and the correction of "those multitudinous agencies, whether physical, whether moral, whether born of earth, of air, or of society, which are either openly or insiduously degenerating the human race."

Resolved, That this Association further recommends that initiative steps be taken, as soon as six States shall engraft State Medicine upon their statute books, for the formation of a "National Health Council," whose objects shall be the prosecution of the comparative study of international hygienic statistics, and the diffusion and utilizing of sanitary knowledge; and that said Council shall be aided and assisted by this Association in using what influence may legitimately lay in their power, with foreign States, as well as with the medical profession and the people generally, in securing coöperation in the ends and objects of public hygiene.

Resolved, That said National Health Council, although thus organized as a branch *per se*, shall be auxiliary to this Association, and shall constitute a special section on hygiene, to which all quesitons germane to this department of medicine shall be referred.

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"Only," to use the language of the great Virchow, "by thus working harmoniously together, by thus mutually enlightening each other, will the State gain an organ to which may be safely intrusted the solution of the great question of our time, viz: Bodily and mental health, and development of our future generation."

Before a body of medical men it is unnecessary to dilate at any considerable length upon the importance of State medicine, or of the importance of an adequate organization for the supervision of all matters affecting the public health. I have gone over a certain portion of the ground simply to indicate, in a general way, the character of the questions falling within the purview of public health authorities; and to give a very brief account of what has been heretofore done in various civilized countries for the conservation and improvement of the sanitary condition of States; and I have done this as an introduction to two questions of real and practical importance, which I desire to bring before the Association for discussion, namely, these: Has the time arrived when it becomes expedient for the State of Alabama to adopt some system for the supervision of the public health? And if so, what plan of organization will best accomplish the purpose contemplated, and with least expense to the State?

I think there can be no doubt, in view of what has already been said, that the first question must be answered in the affirmative. We proceed, therefore, to the discussion of the second question, and the answer to this will be most easily reached if we put it in another form, namely: Whether it is best to adopt the California and Massachusets plan, already explained, or whether some better plan can be devised.

I am free to say that I have no special objections to the Massachusetts and California plan, in itself. If no other arrangement was suggested, I would very cheerfully advocate it, and do all I could to secure its adoption by the Legislative authorities of the State. A State Board, so constituted, would undoubtedly render valuable service to the State, and make valuable contributions to our knowledge of the natural history of disease, and of the influence of various circumstances, geological, topograpical and meteorological, upon the sanitary conditions of localities. If, then, I oppose this system of organizing a health department for the State, it is not because I think it intrinsically bad, but simply because I think I have a better plan to offer to your consideration. This latter plan I will first give you in briefest outlines, and then proceed to show its advantages.

I would have a general health law passed by the Legislature of the State, carefully prepared, so as not to stand in need of frequent revision or amendment.

I would have this law to invest the Medical Association of the State with the functions, powers and responsibilities of a State

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Board of Health; and these functions I would have exercised through such organs as the Association, in its wisdom, might think best.

I would have the same act of the Legislature to invest each county medical society with the functions of a county Board of Health, said functions to be exercised through such organs as the said county societies should, in their wisdom, determine to be best.

If my plan for the organization of the profession of the State should be adopted, as I firmly believe that it will, because I have confidence in the sound judgment and sober second thought of the profession, then I would have the Board of Censors of the State Association to have special supervision of the sanitary interests of the State, and the Boards of Censors of the several county societies to have sanitary jurisdiction of their several counties; and I would have the county medical organizations to be subordinate in this function, as in all others, to the authority of the State Association, and all to act together toward the accomplishment of a common purpose.

Until it suited the purposes of the local authorities of any county to coöperate with the Board of Censors of the County Medical Society, by the appropriation of means and powers for the practical application of sanitary science, the health functions of such board of censors would be largely nominal, and confined mostly to the preparation of reports on the medical topography, medical climatology, and medical and surgical diseases of such counties. But whenever, in the judgment of the county or municipal authorities, circumstances should justify some direct practical attempts towards an improved sanitary condition, the machinery would be ready, and could be put into working order at once. In this manner, after the lapse of a few years, we would have an active and efficient board of health in every county of the State, acting in concert with a State Board of Health, which would constitute a Central Health Bureau.

The advantages of this arrangement, as compared with the other, may be considered under two heads: First, the advantages to the State; and, secondly, the advantages to the medical profession of the State.

The advantages to the State are these: 1st. That the work of the State Board of Health would be done at less expense to the State. 2d. That it would, at the same time, be done far more efficiently.

It would be done more cheaply, because it would be done simply as an incidental function of an organism already in existence, and already self-sustaining. It would add nothing to the expenses of the State Association, and so the Association could do it, to put the matter on a purely commercial basis, at a lower charge than an organization specially created for the purpose, and having no other functions to discharge.

It would be done more efficiently, because all the medical men of the State would be virtually engaged in the work, each contributing

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his quota to the gross amount, according to his opportunity and capacity; while, on the other plan, only half a dozen medical men would be engaged in the work, at such intervals of leisure as they could find in the daily hurry of the practice of their profession; and it needs no legerdemain of logic or of arithmetic to show that more is to be reasonably expected from an organization numbering a thousand men, than from one numbering only half a dozen.

The advantages to the profession are these:

That it will make them all more or less the conservators of a great public trust, and so give them an additional claim on public confidence and respect.

That it will bring them into more intimate and business relations with the civil authorities of cities, of counties, and of the State itself, and so place them in a position of advantage which will enable them to exert a far greater influence over the medico-legal policy of the country.

That it will serve as an additional bond of union among the members of the profession, and particularly that it will increase the power and interest of all our medical organizations.

That it will unite the Association very intimately with the State, and by making the transactions of the State Association the report of the State Board of Health, will secure the printing of the annual volumes at the expense of the State, just as in the case of any other State document.

Finally, that it will establish a perfect system of health boards all over the State, all acting in concert, and all contributing to one common end, like the various wheels and levers of some complex piece of mechanism.

Against this plan I have heard but one objection urged, and that is, that it is too complex—that it lacks that perfection of simplicity which is necessary for the easy and efficient attainment of the ends in view. It is most strange to me that an objection of this sort should be urged by gentlemen who have so often heard me expose its weakness. It is stranger still that such an objection should be urged by persons claiming any decent acquaintance with the fundamental principles of comparative anatomy and physiology. It is strangest of all that argumentation so flimsy should be expected to influence the judgment of a body of educated physicians. Simplicity is in no case the measure of perfection. Exactly the contrary proposition is true, namely: That the measure of the complexity of an organism is also the measure of its organic perfection. And this law is true, without any exception, and applies to organisms of every nature whatever. It is true of the animal hierarchy. The simplest animals stand lowest in the scale; the most perfect and most powerful stand highest in the scale. Compare, for example, the shapeless mass of jelly which constitutes the body of Amœba with the elaborate and complex apparatus of organs which is found in the body of man, fearfully and wonderfully made. It is true in

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social organisms. Compare, for example, the rude and simple habits and laws of a tribe of African Hottentots, or Digger Indians, with the elaborate and infinitely complicated social and governmental arrangements of any civilized European or American nation. It is even true of machines made by human hands. Compare, for example, an old-fashioned scythe with one of McCormick's reapers. I cannot now go into an extended development of this principle, but these few familiar examples must make it plain even to the commonest apprehension, and it would be an insult to the intelligence of the audience I am now addressing to suppose that further argument on this point could be needed to convince them—if, indeed, I ought not to apologize to such an audience for mentioning it at all. The case is so clear that only the blind could fail to see it.

Dr. Weatherly stated that he was the Alabama member of the committee of the American Medical Association, appointed at the San Francisco meeting, 1871, to urge upon the Legislatures of the several States the importance of establishing State Boards of Health, and that in this capacity he had brought to the consideration of the Legislature of the State, at its late session, the plan of organization adopted by the States of Massachusetts and California, which plan had received the approval of the American Medical Association—the great medical congress of the nation. He stated, further, that the Legislature had given the matter a favorable consideration, and that he felt sure, with the influence of the Medical Association of the State in its favor, it could be easily passed. He went on at considerable length, showing why he considered this plan better than the one proposed by Dr. Cochran.

After somewhat lengthy discussion, both plans were referred to a committee of three, consisting of Drs. E. P. Gaines, T. A. Means, and L. W. Sheppard, with instructions to report on Thursday morning.

Dr. Weatherly offered the following, prepared by Dr. R. F. Michel, of Montgomery:

WHEREAS, the time appointed for the annual meetings of this Association is in too great proximity to the meeting of the American Medical Association, thereby depriving many physicians of the State the pleasure of attending *both* of these valuable organizations; therefore,

Resolved, That the annual meeting of the Medical Association of the State of Alabama shall hereafter be held on the *First Tuesday in December.*

On motion, the proposition was laid on the table.

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On motion, the Association adjourned, to meet at the Presbyterian Church, at half-past seven, to hear the Annual Oration, by Dr. J. S. Weatherly. Also, to meet at ten o'clock to-morrow, for business.

EVENING SESSION.

The Association met, pursuant to adjournment, at the Presbyterian Church, at seven and a half o'clock. Front seats were reserved for the members, and the body of the church was filled with ladies and gentlemen.

At eight o'clock, the Orator, Dr. J. S. Weatherly, was introduced to the audience by President Osborn, and proceeded to deliver the Annual Oration, which will be found in its proper place.

SECOND DAY — WEDNESDAY, March 27.

The Association met at fifteen minutes past ten o'clock, and was called to order by the President, Dr. T. C. Osborn.

The minutes of the first day's meeting were read and approved.

A communication from Dr. G. M. McDowell, President of the Georgia Medical Association, was read, accrediting Dr. Wm. Abram Love, of Atlanta, as a visiting delegate to the Alabama State Medical Association. On motion, a committee, consisting of Drs. E. P. Gaines, H. W. Bassett, and John Little, Jr., was appointed to receive Dr. Love and introduce him to the Association. On his presentation he was welcomed by the President in a cordial manner, and invited to a seat on the floor.

Before taking his seat, Dr. Love expressed his obligations for the courtesy which had been extended to him, and hoped that truly fraternal relations might be established and maintained between the Associations of the two States.

The following resolutions from the Association of Superintendents of Insane Asylums were read and approved:

Resolved, That in view of the frequency of mental disorders among all classes and descriptions of people, and in recognition of the fact that the first care of nearly all these cases necessarily devolves upon physicians

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engaged in general practice, and this at a period when sound views of the disease and judicious modes of treatment are specially important—it is the unanimous opinion of this Association that in every school conferring medical degrees there should be delivered, by competent professors, a complete course of lectures on insanity and on medical jurisprudence, as connected with disorders of the mind.

Resolved, That these courses of lectures should be delivered before all the students attending these schools, and that no one should be allowed to graduate without as thorough an examination on these subjects as on the other branches taught in the schools.

Resolved, That in connection with these lectures, whenever practicable, there should be clinical instruction, so arranged that, while giving the student practical illustrations of the different forms of insanity and the effects of treatment, should in no way be detrimental to the patient.

Resolved, That a copy of these resolutions be sent by the Secretary to the American Medical Association, the Dominion Association and Ontario Association of Canada, to each State Medical Society, and each Medical College in the United States and British Provinces.

Extract from the minutes.

JOHN CURWEN,
Secretary of Association of Medical Superintendents of American Institutions for the Insane.

The Secretary presented several accounts, which were ordered to be paid.

Dr. G. E. Kumpé, Chairman of the Committee on Dr. Cochran's plan of constitution, submitted his report, as follows:

REPORT OF THE COMMITTEE ON THE PROPOSED NEW CONSTITUTION.

Mr. President—As Chairman of the committee appointed at the last session of this Association, to take into consideration and report upon a "plan of organization of this Association," proposed by Jerome Cochran, M. D., of Mobile, I addressed, about the beginning of January last, notes to the gentlemen composing said committee, requesting them to examine the subject and forward to me their opinions, that I might be prepared to embody them into a report, provided we did not meet in person to confer upon the matter.

In due time I received replies from all the members of the committee, Drs. Johnson, Mason and Webb expressing themselves adverse to the adoption of the new constitution, upon the ground of its being too complicated, and for the further reason that the present constitution, under which this Association had obtained to its present prosperity, was sufficient for the future.

Dr. G. A. Moses signified his entire willingness to adopt the new constitution as a whole.

As neither of the above gentlemen are here at this meeting of the Association, and I have thus been denied the pleasure of a personal conference in reference to the new constitution, it remains for me to state that after carefully and repeatedly examining into its provisions, I cannot agree with Drs. Johnson, Mason and Webb, that it is too complicated; nor can I believe, with them, that this organization, under the present constitution, will ever remedy the evils which all complain of, and which so materially prevent the medical profession of this State from attaining that degree of prosperity and respectability to which it is justly entitled, namely, the admitting of incompetent persons into the ranks of

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the profession. There is nothing in the present constitution which has any reference to that evil, and while I would recommend that the consideration of the new constitution as a whole be deferred to some future time, I deem it highly probable that the consideration and discussion of section five, on "Counsellors," and of section seven, article twenty-five, and section twelve, on "Censors," might make the importance and value of those articles much better understood.

All of which is respectfully submitted.

G. E. KUMPÉ, Chairman.

A protracted discussion followed the reading of this report, and several ineffectual motions were made in reference to it. It was finally ordered, on motion of Dr. Ketchum, to defer the further consideration of the whole subject to the morning of the second day of the next annual meeting.

On motion of Dr. Means, Dr. Love was granted the floor to present to the Association the claims of the Atlanta Medical and Surgical Journal to the support of the Southern medical profession, and the Secretary was directed to furnish Dr. Love the minutes of the Association for publication in said journal.

Dr. Berger called the attention of the Association to the system prevalent in many portions of the country, of making contracts for doing the practice of plantations by the year, and asked the views of members as to the ethical propriety of the practice. This gave rise to a long discussion.

Dr. Osborn stated that, under circumstances formerly existing he had always been opposed to contracts, was, indeed, still opposed to them, and for himself had persistently refused to make such contracts. But at the present time there was, in his opinion, many circumstances which would tend, to some extent, to excuse the practice; and he was disposed to regard it with more leniency than formerly. It was, no doubt, an evil, but it had been tolerated to avoid an evil still greater. In the counties where large numbers of negroes were employed to work the farms, it was necessary to adopt some method to secure compensation for medical services rendered to this class of persons, and it was under this pressure that the contract system had come into use.

Dr. Sadler contended that the profession should stand firmly by their Code; that it was not only their duty, but their interest to do so; that the landlord or planter has as much right to claim that the physician should feed his stock, or keep his wagons and plows in repair, and take the chances of getting his pay after the landlord's liens were settled, as to expect that the medical attendant should

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keep his employés in a condition of physical and physiological repair, and take the same chances for remuneration. The landlords are protected by liens, which have been refused to the profession, and the only hope that remains for the profession is to unite for the protection of themselves. If they will do this, and act in concert, the planters will find it to their interest to keep their laborers in repair as well as their implements; and though they may kick against it at first, they will in the end consult their own interest, and become responsible to the physician for his fees. Such a course of policy had been pursued by the North Alabama Medical Society, and although there was some trouble at first, the firmness of the profession had forced the landlords to respect their rights, and to guarantee the payment of their bills for services rendered to their employés.

Dr. Weatherly presented the Code of Ethics of the American Medical Association, and contended strenuously for its enforcement.

Dr. Jackson agreed with Dr. Weatherly, and thought the contract system a very great abuse. He offered the following resolution:

That it is not in accordance with the Ethics of the American Medical Association, which have been adopted also by this Association, to contract either with negroes or whites for professional services.

Dr. Jerome Cochran thought the question one of very great importance, and begged the Association not to act upon it in any hasty and unadvised manner. The practice, whether right or wrong, was deeply rooted and widely diffused in the rich cotton growing counties. He doubted if it was the best solution possible of securing compensation for medical services, even under the peculiar circumstances of the case, and he hoped that some other and more satisfactory solution of the difficulty would be reached. While he did not think the practice beyond all ethical criticism, he thought that it admitted of some excuse on substantially the same principles that had been applied to the case of salaries for professional attendance in hospitals. But place it in any light you please, he was willing to trust to the good faith and wise judgment of those members of the profession who were most directly interested—those, namely, practicing in the localities where the contract system prevailed. They were more familiar with the facts, the difficulties and the possibilities of the case, and their professional welfare was more

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directly at stake than that of the profession at large. He therefore moved as a substitute for the motion of Dr. Jackson:

That this Association acknowledges the Code of Ethics of the American Medical Association as the fundamental law of the profession in this country, and obligatory upon all its members. That, with reference to the contract system now under consideration, this Association deems any special legislation at this time to be inexpedient, and would refer the whole matter to the subordinate County Medical Societies for such action as, in their judgment, in view of all the circumstances, may be deemed most expedient.

Dr. Jackson's motion was withdrawn, and Dr. Cochran's substitute adopted.

The following invitation was read by the Secretary:

The members of the Association of the State of Alabama, and all physicians visiting the city, are cordially invited to attend a reception, to be given in honor of the Association by the physicians of Madison County, at the Huntsville Hotel, this (Wednesday) evening, at 7½ o'clock.

BY ORDER OF THE COMMITTEE.

On motion, the invitation was accepted, with the thanks of the Association.

The Secretary read a request from Dr. Culberson, of Dayton, Ohio, requesting statistics of resections of the joints.

The roll of Reporters on the Diseases, Surgery and Gynæcology of the different counties was next called in the alphabetical order of the counties. From the counties not mentioned below no report was received:

Colbert County.—Report on Diseases, by Dr. R. T. Abernethy. Presented by Dr. Wm. Desprez. Read and referred to Publishing Committee.

Green County.—Report on Diseases, by Dr. H. B. Robinson. Read and referred.

Jackson County.—No report from the regular reporter, Dr. W. B. Martin, of Scottsboro'. Dr. J. S. Bankson volunteered to prepare a report by to-morrow.

Jefferson County.—Report on Surgery, by Dr. F. M. Prince. Presented by Dr. M. H. Jordan. Read and referred.

Lauderdale County.—Report on Diseases, by Dr. James Kyle. Read and referred.

Lawrence County.—No report from regular reporter. Dr. L. H. Sadler presented a report of four special cases. Read and referred.

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Madison County.—Report on Diseases, by Dr. Geo. D. Norris. Read and referred.

The Association then adjourned until ten o'clock to-morrow morning.

THIRD DAY—THURSDAY, March 28.

The Association met pursuant to adjournment and was called to order by the President, Dr. Osborn. Minutes of yesterday's meeting read and approved.

The Report of the Committee on State Board of Health being called for, a majority and a minority report were submitted, as follows:

MAJORITY REPORT.

To the President and Members Medical Association of Alabama:

GENTLEMEN—We, the majority of the committee to whom was referred the two plans for the formation of a State Board of Health, beg leave to report in favor of that offered by Dr. Weatherly.

It is simple, easily put in operation, and is now working most successfully in two States of the Union, if not more. It has the sanction of some of the best men in the profession.

We beg to state that there may be objection to having the appointments come from the Governor, but they are counterbalanced by the reason that all voluntary associations are liable at any time to become disrupted. A Board of Health, therefore, to be permanent, should have a solid basis, and become at once a part of the State machinery.

Respectfully yours, &c.

T. A. MEANS, M. D.
L. W. SHEPPARD, M. D.

MINORITY REPORT.

To the President of the Medical Association of the State of Alabama:

As chairman of the committee appointed to consider the two plans for the organization of a State Board of Health, submitted respectively by Drs. Cochran and Weatherly, I have to report that the members of the committee have been unable to reach any common agreement. For myself, I am of opinion that the plan submitted by Dr. Cochran is best calculated to subserve the interests of both the profession and the State.

Dr. Weatherly's plan gives the appointment of the members of the Board of Health to the Governor of the State, which at once and without peradventure places the Board at the mercy of local and political influences; while, on the other hand, Dr. Cochran's plan places this important

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matter where it properly belongs, namely—in the hands of the medical profession itself. Dr. Weatherly's plan separates the Board of Health from the control of the profession; while Dr. Cochran's plan identifies the Board fully with the views and wishes of the State Association, and makes it instrumental in advancing the honor, usefulness, dignity, and influence of that organization; while at the same time his plan for the organization of County Boards of Health confers the same advantages, *pari passu*, upon the County Medical Societies. Dr. Weatherly's plan places the power, patronage and influence of the Board of Health under the control of a few men, while Dr. Cochran's plan embraces the interests and commands the services of the entire medical profession of the State. On all these grounds, then, as well as on others which I cannot, for want of time, specifically mention, I am convinced that Dr. Cochran's plan is very far superior to the other, and therefore recommend that it receive the endorsement of the Association.

All of which is respectfully submitted.

E. P. GAINES, M. D., *Chairman of Committee.*

Some discussion ensued, which was participated in by Drs. Means, Weatherly, and Cochran.

The vote was taken first on the adoption of the majority report, which was lost; then on the adoption of the minority report, which was carried.

Dr. H. W. Bassett, chairman of the Committee on the President's Address, submitted the following report, which was received and adopted:

Your committee to whom was referred the President's Address, after careful examination, beg leave to report:

That portion relating to petitioning the Legislature to pass a bill granting to physicians a lien for their fees next to landlords and laborers' liens for services rendered, and the repeal of that section of the Revised Code exempting certain property from execution, meets with their approval, and they advise that the Association take such steps as will be most likely to secure its passage by the Legislature.

We heartily concur with the President's suggestions concerning private students, and advise that the Association recommend that the profession throughout the State adopt and enforce the practice of examining students, and, if they be found deficient in education, refuse to receive them.

We approve of the formation of district associations, and advise that the State Association recommend it to the local societies.

We suggest that the President be requested to present his views on the "History and Periodicity of the Great Malarial Epidemics" at the next annual meeting.

We commend to the attention of this body the President's suggestions in regard to the dispatching of business.

H. W. BASSETT,
M. H. JORDAN,
JNO. LITTLE, JR., } Committee.

Dr. Wm. Desprez presented the following plan for the organization of the "Alabama Benevolent Aid Society":

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PLAN OF THE BENEVOLENT AID ASSOCIATION—BY DR. W. DESPREZ.

I wish to draw the attention of the members of this Association to the necessity of organizing a society for the relief of the widows and orphans of physicians. Let us see how many members of our profession who, if they die to-morrow, could say they were leaving a competency for their families. How many widows and orphans of deceased physicians are left to the cold charities of the world, whose fathers have toiled night and day, through heat and cold, frost and snow, in the relief of suffering humanity. I know the families of several deceased physicians, who have been left destitute. I will merely allude to two. One, who had practiced twelve or fifteen years, left his widow and six children depending on what the mother could earn with her needle until the family were grown sufficiently to help her; the other had practiced about thirty-five years, and he left a very large family dependent on their relations.

Gentlemen, I think it is a duty we owe to our families to make some provision for them. It is true there are insurance companies where we can effect an insurance, but on what terms? Why, to the most liberal we pay from $40 to $80 yearly to secure $1,000 for our families. These companies are building palaces, declaring dividends of from twelve to thirty per cent., and paying large salaries to their officers and employés. Why can we not form a society, the profits of whose contributions would go to the benefit of widows and orphans of the members of the society?

If we review the statistics of the mortality of large cities, we will see that the mortality of adults is less than one per cent. In 1856, in Philadelphia, with a population of 600,000, there were 11,723 deaths. Of these 4,500 were over twenty years of age—equal to one death in 133. In 1866, a year in which the cholera made its appearance, there was a population of 750,000, and 15,312 deaths. Of these 8,000 were over twenty—equal to one death in 94, making our average 113½.

This is the mortality of a large city. Of course, in the country we would expect it to be considerably less—but say one in 113. If the society consists of only twenty members, according to that rate there would be one death in that number in a little less than six years. If these contribute according to my calculation, say—

Three under thirty years of age, $40 per annum	$120
Twelve over thirty and under fifty, $50 per annum	600
Five over fifty, $60 per annum	300
Would make annually	$1,020

Which, placed at interest and counting it for six years, would make $7,482, yielding an annual interest of $598. That would be a very handsome income for a poor woman, which sum would at her death revert to the society. At the end of some time I would propose that the annual payment be either reduced or remitted, according to circumstances.

The annual income for six years would amount to an almost incredible sum:

At the end of the first year	$1,020 00
Interest first year	81 60
Income	1,020 00
	$2,121 60
Interest second year	169 72
Income	1,020 00
	$3,311 32

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Carried forward	$3,311 32
Interest third year	264 90
Income	1,020 00
	$4,596 22
Interest fourth year	367 69
Income	1,020 00
	$5,983 91
Interest fifth year	478 60
Income	1,020 00
	$7,482 51
Interest sixth year	598 60

Giving you a capital at the end of the sixth year of $7,482 51, paying an interest of $598. That would be a very handsome sum for a poor woman. I would, if she died before the children were of age, continue the annuity to the children until they attained their twenty-first year, if boys; to the girls I would give $100 yearly until they were married.

Now, look at the insurance companies. In the most favorable of them, for a policy taken by a man of forty years of age he must pay $50 annually for ten years, and all he gets is $1,000, and there it ends. But here you have an annuity, and the benefit does not end here; a widow will not live always—say one dies out in ten years, you have her annuity to be divided out among the remaining ones, so that, in place of $598, the other two would get $873 each. [There is evidently some error here.—SECRETARY.]

ARTICLES OF ASSOCIATION.

1. The name of this association shall be THE ALABAMA MEDICAL BENEVOLENT AID SOCIETY.

2. The members of this Society must be medical practitioners, of good standing, and members of some recognized medical society, including as well those who have retired from the profession as those in actual practice.

3. The object of this Society is: To provide a fund for the benefit of the families and relations of deceased members of this Society.

4. The officers of this Society shall be: A President, a Vice President, a Secretary and Treasurer, and a Board of Directors, consisting of not less than six nor more than twelve, who shall be elected at the organization of this Society, and at its annual meetings thereafter, the Directors to be elected in three classes, for one, two and three years. After which one-third of the Directors will be elected annually, so that they hold office for three years.

5. The officers of this Society shall, from among their members, elect an Executive Committee of three, annually, whose duties it shall be (subject to the control of the Society) to manage, invest, and disburse the funds of this Society, so as to carry out the object of same, as expressed in these articles, and shall perform such other duties as may be imposed upon them by these articles, or by-laws and resolutions of this Society. A majority of the committee shall constitute a quorum for the transaction of business, but, if practicable, all of them shall be consulted upon matters relating to the investment and disbursement of the funds of the Society, until otherwise directed. They shall invest the funds of the Society in such convertible securities as in their judgment they may deem best calculated to insure increase and security of the same.

6. The Treasurer shall be subject to removal by the Executive Com-

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mittee; shall hold his office for two years, and shall give bond in such form and amount as may be prescribed by the Executive Committee. He shall have the custody of the funds and securities of the Society, and shall pay out the same on the order of the Executive Committee. He shall make a report at each annual meeting, exhibiting the receipts and expenditures for the year and the balance in the treasury. The compensation of the Treasurer shall not exceed two and a half per centum on receipts and two and a half per centum on disbursements.

7. The initiation fee for members of the medical profession, who join this Society at the meeting at which these articles are agreed on, shall be ten dollars, which sum must be paid in cash, or within thirty days from the formation of this Society; and thereafter for his lifetime pay, in semi-annual instalments, if under thirty years of age, the sum of forty dollars; if over thirty and under fifty, the sum of fifty dollars; and if over fifty, the sum of sixty dollars annually, in semi-annual payments, being due on the first day of May and the first day of November in each year. After the Society has been in existence for two years the initiation fee shall be raised to fifty dollars, and should the funds of the Society accumulate to such an extent that the interest thereof shall be more than sufficient to meet the requirements of the Executive Committee, then the annual fees may be reduced at any annual meeting of the Society, to be raised again thereafter if necessary: *Provided*, that if any member of this Society, either by accident or in the discharge of his professional duties, should be disabled from prosecuting the practice of his profession, his annual dues shall be remitted at the discretion of the Executive Committee.

8. It shall be the duty of every member on joining this Society to designate who shall be the beneficiary of the benefits of this Society at his death, which he has a right to change as circumstances may require: *Provided, however*, That, should it be in favor of any widow or sister or daughter, it shall only be paid until they marry, and if in favor of any male, until they arrive at the age of twenty-one.

9. Within three months after the death of any member of this Society, or sooner if practicable, the Executive Committee shall order the Treasurer to pay over to the parties designated by the deceased member as beneficiaries a sum, in quarterly payments, at the discretion of the Executive Committee, only using the interest arising from the permanent fund, and continue the same during the lifetime of the widow, and after her death to the orphans, until the youngest one is of age or capable of supporting himself, and should the surviving children be females to pay them such a sum annually as the Executive Committee may fix, until they marry; but if the widow have children, and marry again, such annuity to be discontinued to her, but to be continued to the children, until the youngest one is of age, or able to support itself, as in the case made and provided.

10. Any member who shall fail to pay any semi-annual payment for the space of two months shall pay an addition of ten per cent. on the same, and if he fail to do so, and not to pay the next payment in two months after it falls due, with ten per cent. additional, he shall cease to be a member, and forfeit all claims to any portion of the funds of the Society; but any such delinquents shall be readmitted as members and be reinstalled in all their rights on paying to the Treasurer their arrears, with fifty per cent. added.

11. New members shall be admitted into this Society at any regular or called meeting, and by a vote of three-fourths of the members present, taken by ballot.

12. In case of a vacancy in the office of President, the Vice President shall act for the remainder of the term, and in case both offices shall

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become vacant, the Executive Committee shall appoint a President *pro tem.*, who shall act until the next annual meeting. Vacancies in the Executive and in the office of Secretary may be filled by the President. Vacancies in the office of Treasurer shall be filled by the Executive Committee.

13. These articles may be amended at a regular annual meeting, but only by a vote of a majority of the whole number of members then belonging to the Society, in which case votes may be taken by proxy.

14. A majority of the members of the Society, or their proxies, shall constitute a quorum for the transaction of business.

15. Members removing from the State do not forfeit their membership, and the Society may, by a by-law, extend the period in which such members shall be required to pay their semi-annual dues.

The plan received the favorable attention of the Association, and on motion of Dr. Ketchum was formally endorsed.

The call for reports from the several counties was now resumed:

Madison County.—Report on Surgery, by Dr. J. J. Dement. Presented by Dr. H. W. Bassett. Read and referred.

Jackson County.—Dr. J. S. Bankson presented his volunteer report, which was read and referred.

Hale County.—Dr. Thomas O. Summers, Jr., presented by request a paper detailing the analysis of the urine in a case of Hæmorrhagic Malarial Fever.

This paper gave rise to a very interesting discussion, which was engaged in by Drs. Sadler, Taylor, Love, Cochran, and others. [The views of Drs. Taylor and Love will be found in the body of this volume, in connection with the paper which elicited them.]

Marengo County.—Report on the Diseases and Surgery of Spring Hill, by Dr. George Whitfield. Received and referred.

Mobile County.—Report on Diseases, with a topographical map, by Dr. G. A. Moses. Received and referred.

Report on Surgery, by Dr. J. T. Gilmore. Read in synopsis and referred.

Report on the Sanitary Condition of Mobile, by Dr. William H. Anderson. Read and referred.

Dr. Gaines requested further time to prepare his paper on Phthisis Pulmonalis, which was granted.

Report on Genito-Urinary Surgery, by Dr. C. H. Mastin. Read in part, and referred.

Montgomery County.—Report on Surgery. Received and referred.

Dallas County.—A volunteer essay, entitled "A Reply to Dr. T. C. Osborn on the use of Quinine in Malaria," by Dr. A. G. Mabry. Received and referred.

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Elmore County.—Report on Obstetrics, by Dr. E. Mason. Received and referred.

Bibb County.—Report on Diseases. Dr. Crawford asked further time, which was granted.

Miscellaneous business was next in order.

Dr. Osborn presented to the Association a tooth from a child thirteen days old; also one of recent growth from a lady aged sixty-one years.

On motion of Dr. L. H. Sadler, the following resolution was adopted:

WHEREAS, It is a pleasant custom of State Medical Associations to send greetings and delegates to neighboring State Associations:

Resolved, That the Medical Association of the State of Alabama appoint one delegate each to attend the meetings of the State Medical Associations of Tennessee and of Georgia, which will take place in a few days in those States; and that the delegates be authorized to extend the cordial wishes of this Association for their continued prosperity.

On motion, Dr. T. C. Osborn was appointed delegate to the State Medical Association of Tennessee, and Dr. T. A. Means delegate to the State Medical Association of Georgia.

The report of the Nominating Committee was then presented.

REPORT OF NOMINATING COMMITTEE.

The Nominating Committee of the Medical Association of the State of Alabama convened in the parlor of the Huntsville Hotel Wednesday afternoon, March 27, 1872, at five o'clock, P. M. Dr. Sadler was called to the Chair, and Dr. Summers was elected Secretary.

The following gentlemen recorded their names as delegates from their respective counties: Dr. Geo. A. Ketchum, Mobile county; Dr. M. H. Jordan, Jefferson county; Dr. Louis W. Desprez, Franklin county; Dr. J. S. Lynch, Wilcox county; Dr. H. W. Bassett, Madison county; Dr. S. L. Bonner, Pickens county; Dr. J. S. Weatherly, Montgomery county; Dr. J. S. Bankson, Jackson county; Dr. J. Kyle, Lauderdale county; Dr. L. H. Sadler, Lawrence county; Dr. John Little, Jr., Tuskaloosa county; Dr. J. R. Hoffman, Limestone county; Dr. William Desprez, Colbert county; Dr. L. W. Sheppard, Lee county; Dr. D. E. Berger, Perry county; Dr. T. O. Summers, Hale county.

The committee then proceeded to nominate by ballot, with the following result:

President—Dr. J. J. Dement, Huntsville.
First Vice President—Dr. M. D. Richardson, Athens.
Second Vice President—Dr. E. P. Gaines, Mobile.
Third Vice President—Dr. L. W. Sheppard, Opelika.
First Recording Secretary—Dr. T. A. Means, Montgomery.
Second Recording Secretary—Dr. T. O. Summers, Greensboro'.
Corresponding Secretary—Dr. John Little, Tuskaloosa.
Treasurer—Dr. W. C. Jackson, Montgomery.

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Orator—Dr. M. H. Jordan, Birmingham.
Valedictorian—Dr. J. Paul Jones, Camden.
Tuskaloosa was chosen *viva voce* as the place for the next annual meeting.

Dr. Hicklin, of Mobile, moved that the report of the committee be received, and that the Association proceed to ballot for officers.

Dr. Gilmore objected to the reception of the report of the committee, charging that it was the result of a private caucus, a sort of proceeding which he thought discreditable to a scientific body.

Speeches were now made by several members of the Nominating Committee, commenting on Dr. Gilmore's charges. Dr. Ketchum stated that he was a member of the Nominating Committee, and that he repelled with indignation any charge associating his name with the proceedings of a caucus. If any such caucus had been held it was deserving of censure, and if nominations had been influenced by such means the gentlemen nominated owed it to themselves not to allow their names to be submitted to the vote of the Association.

Dr. Sadler agreed with Dr. Ketchum.

Drs. Weatherly and Bassett also spoke in reply to the strictures made by Dr. Gilmore.

Dr. Dement's name was withdrawn by Dr. Norris.

Dr. Sheppard, Dr. Richardson, and Dr. Means were withdrawn by Dr. Bassett.

Dr. Summers withdrew his own name.

Nominations were then made on the floor and the ballot taken for the several offices, with the following result:

President—Dr. George Ernest Kumpé, of Leighton.

First Vice President—Dr. E. P. Gaines, of Mobile.

Second Vice President—Dr. C. A. Crow, of Moulton.

Third Vice President—Dr. S. L. Bonner, of Reform.

First Recording Secretary.—Dr. Jerome Cochran, of Mobile.

Second Recording Secretary—Dr. T. O. Summers, Jr., of Greensboro'.

Corresponding Secretary.—Dr. John Little, Jr., of Tuskaloosa.

Treasurer.—Dr. W. C. Jackson, of Montgomery.

Orator.—Dr. M. H. Jordan, of Elyton.

Valedictorian.—Dr. L. H. Sadler, of Leighton.

Place of next annual meeting, Tuskaloosa. Time of next annual meeting, last Tuesday in March, 1873.

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VOTE OF THANKS.

On motion it was resolved that the thanks of the Association be extended—

1. To the Madison County Medical Society for the admirable arrangements made for the business and entertainment of the Association.

2. To the citizens of Huntsville for the courtesies and hospitalities extended to the members of the Association.

3. To the officers of the following Railroads for reduction of fare, namely: Mobile and Ohio; Mobile and Montgomery; Memphis and Charleston; Georgia; Selma, Meridian and Memphis; Western; Alabama Central; Selma, Rome and Dalton.

4. To the retiring officers of the Association for the courteous and efficient discharge of their respective duties.

On motion, the Association adjourned *sine die.*

[The following remarks of Dr. Weatherly should have been printed on page 40.]

Dr. Weatherly said that he did not know who were to be the nominees previous to going into the nominating room; that there was nothing unfair in the nomination; that he had objected to one Society being represented by four delegates in the Nominating Committee; that the nominees received eight votes, representing eight Societies, and that three Societies, represented by seven votes, opposed them; that the refusal to confirm would be an unprecedented act by this Association.

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REPORTERS ON THE DISEASES OF THE DIFFERENT COUNTIES.

The following gentlemen have been appointed by the President Reporters on the diseases of the various counties, under the fourth section of Article IV of the Constitution. Reports to be made to the next annual session.

Autauga County.

On Diseases—Duncan McNeill, M. D., Autaugaville.
On Surgery—Alex. D. Mims, M. D., Prattville.
On Gynæcology—T. A. Davis, M. D., Autaugaville.

Barbour County.

On Diseases—John C. McNeil, M. D., Clayton.
On Surgery—Wm. H. Thornton, M. D., Eufaula.

Bibb County.

On Diseases—James W. Crawford, M. D., Centreville.
On Surgery—S. E. Starr, M. D., Tyann's.

Bullock County.

On Diseases—C. H. Franklin, M. D., Union Springs.
On Surgery—James M. Foster, M. D., Union Springs.

Butler County.

On Diseases—John Bemey, M. D., Greenville.
On Surgery—Joseph Harrison, M. D., Greenville.

Choctaw County.

On Diseases—A. B. Gilmer, M. D., Butler.

Clark County.

On Diseases—Wm. Stump Forwood, M. D., Gosport.
On Surgery—Thomas B. Savage, M. D., Jackson.

Conecuh County.

On Diseases—S. S. Forbes, M. D., Bellville.
On Surgery—John B. McMillan, M. D., Evergreen.

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COLBERT COUNTY.

On Diseases—W. C. Wheeler, M. D., Cherokee.
On Surgery—Wm. C. Cross, M. D., Cherokee.
On Gynæcology—Wm. Desprez, M. D., Tuscumbia.
On Necrology—R. T. Abernethy, M. D., Tuscumbia.

COOSA COUNTY.

On Diseases—James A. Kelly, M. D., Bradford.
On Surgery—J. D. Kelly, M. D., Bradford.

DALLAS COUNTY.

On Diseases—H. S. Hudson, M. D., Selma.
On Surgery—Charles F. Fahs, M. D., Selma.
On Gynæcology—W. P. Reese, M. D., Selma.

ELMORE COUNTY.

On Diseases—J. C. Harris, M. D., Wetumpka.
On Surgery—Edmund Mason, M. D., Wetumpka.

FRANKLIN COUNTY.

On Diseases—J. K. Clark, M. D., Russellville.
On Surgery—Louis W. Desprez, M. D., Russellville.

GREENE COUNTY.

On Diseases—Henry T. Webb, M. D., Eutaw.
On Surgery—Henry Saunders, M. D., Clinton.

HALE COUNTY.

On Diseases—Francis M. Peterson, M. D., Greensboro'.
On Surgery—Elisha Young, M. D., Greensboro'.
On Great Malarial Epidemics—T. C. Osborn, M. D., Greensboro'.

JACKSON COUNTY.

On Diseases—W. B. Martin, M. D., Scottsboro'.
On Surgery— —— Cotnam, M. D., Stephenson.

JEFFERSON COUNTY.

On Diseases—G. T. Deason, M. D., Elyton.
On Surgery—M. H. Jordan, M. D., Elyton.

LAUDERDALE COUNTY.

On Diseases—James Kyle, M. D., Florence.
On Surgery—James W. Stewart, M. D., Florence.

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LAWRENCE COUNTY.

On Diseases—A. J. Sykes, M. D., Courtland.
On Surgery—John M. Clark, M. D., Mt. Hope.

LEE COUNTY.

On Diseases—James W. McCoy, M. D., Opelika.
On Surgery—John B. Barnett, M. D., Opelika.

MACON COUNTY.

On Diseases—J. W. Hunter, M. D., Tuskegee.
On Surgery—E. B. Johnson, M. D., Tuskegee.

MADISON COUNTY.

On Diseases—George D. Norris, M. D. Newmarket.
On Surgery—J. J. Dement, M. D., Huntsville.

MARENGO COUNTY.

On Diseases—E. H. C. Bailey, M. D., Demopolis.
On Surgery—George Whitfield, M. D., Spring Hill.

MARSHALL COUNTY.

On Diseases—J. W. Terrell, M. D., Guntersville.
On Surgery—J. M. Jackson, M. D., Guntersville.

MOBILE COUNTY.

On Diseases—E. H. Fournier, M. D., Mobile.
On Surgery—J. T. Gilmore, M. D., Mobile.
On Gynæcology—F. A. Ross, M. D., Mobile.
On Sanitary Condition of Mobile—W. H. Anderson, M. D., Mobile.
On Phthisis Pulmonalis—E. P. Gaines, M. D., (continued) Mobile.

MONTGOMERY COUNTY.

On Diseases—S. D. Seelye, M. D., Montgomery.
On Surgery—J. B. Gaston, M. D., Montgomery.
On Gynæcology—J. F. Johnson, M. D., Montgomery.

MONROE COUNTY.

On Diseases—James M. Lindsey, M. D., Claiborne.
On Surgery—W. R. Strode, M. D., Claiborne.

MORGAN COUNTY.

On Diseases— —— Binford, M. D., Decatur.
On Surgery—Benj. Cross, M. D., Decatur.

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PERRY COUNTY.

On Diseases—F. A. Bates, M. D., Marion.
On Surgery—John M. Langhorn, M. D., Uniontown.

PICKENS COUNTY.

On Diseases—S. L. Bonner, M. D., Reform.
On Surgery—A. W. Agnew, M. D., Providence.

SUMTER COUNTY.

On Diseases—R. D. Webb, M. D., Livingston.
On Surgery—James M. Godfrey, M. D., Sumterville.

TALLAPOOSA COUNTY.

On Diseases—R. Jourdan, M. D., Haynesville.
On Surgery—J. B. Rushin, M. D., Tallassee.

TUSKALOOSA COUNTY.

On Diseases—John Little, Jr., M. D., Tuskaloosa.
On Surgery—James T. Searcy, M. D., Tuskaloosa.
On Gynæcology—Reuben Searcy, M. D., Tuskaloosa.
On Insanity in Alabama—Peter Bryce, M. D., Tuskaloosa.

TALLADEGA COUNTY.

On Diseases—J. C. Knox, M. D., Talladega.
On Surgery—J. C. Blake, M. D., Talladega.
On Deaf and Dumb in Alabama—J. H. Johnson, M. D., Talladega.

WILCOX COUNTY.

On Diseases—E. D. McDaniel, M. D., Camden.
On Surgery—A. C. Matheson, M. D., Camden.

SPECIAL COMMITTEES.

TO REPORT AT THE NEXT ANNUAL SESSION.

Committee on Asylum for Inebriates and Opium Eaters.—Drs. Peter Bryce, of Tuskaloosa; J. S. Weatherly, of Montgomery; R. F. Michel, of Montgomery. Continued.

Committee to Memorialize the Legislature on the Suggestions Contained in the Annual Address of President Ross, made at the Meeting in Mobile in 1871.—Drs. James M. Williams, of Montgomery; J. S. Weatherly, of Montgomery; L. E. Locke, of Selma. Continued.

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PERMANENT MEMBERS.

Drs. William Henry Anderson, Mobile.
Peter Bryce, Tuskaloosa.
Jerome Cochran, Mobile.
William Desprez, Tuscumbia.
Edmund H. Fournier, Mobile.
John Taylor Gilmore, Mobile.
Edmund Pendleton Gaines, Mobile.
James Fountain Heustis, Mobile.
Walter Clark Jackson, Montgomery.
M. H. Jackson, Birmingham.
George Ernest Kumpé, Leighton.
George A. Ketchum, Mobile.
John S. Lynch, Clifton.*
Edward Davies McDaniel, Camden.
John B. McMillan, Evergreen.
Adam Alexander McKittrick, Evergreen.
Richard Frazer Michel, Montgomery.
P. B. Minor, Eutaw.
Gratz A. Moses, Mobile.
Thomas Alexander Means, Montgomery.
Albert Gallatin Mabry, Selma.
Thomas Childress Osborn, Greensboro'.
Goronwy Owen, Mobile.
Francis M. Peterson, Greensboro'.
Joseph P. Pride, Tuscumbia.
A. J. Reese, Orange Grove.
Frank Armstrong Ross, Mobile.
W. P. Smith, Prattville.
Caleb Toxey, Mobile.
Job Sobiesky Weatherly, Montgomery.

*Dr. Lynch has removed to Baltimore, Md., since the adjournment of the Association.

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ANNUAL ADDRESSES

AND

REPORTS OF STANDING COMMITTEES.

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PRESIDENT'S ADDRESS.

By THOS. C. OSBORN, M. D., of Greensboro'.

Irrespective of all other considerations, the happiness I enjoy in meeting the Association here to-day more than compensates me for all the sacrifices made at home, and for all the hazards of the journey towards this refined and beautiful city.

As the vine must cling to something of firmer texture and stronger growth to insure its attainment of vigor and maturity, so have I, these twelve months past, been engaged in reaching out the tendrils of my susceptible nature far and wide amongst the stout branches of this institution, and the increased vitality and strength which my devotion has thus imbibed is an ample assurance of my determination to cultivate greater assiduity in the interests of my profession.

Thirty years ago I adopted the State of Alabama as the place of my permanent abode. At that early period of my professional career I was intimately familiar with the hospitality and picturesque scenery of this immediate vicinity, and, in an adjoining neighborhood, first began to encourage those observations upon the effects of malaria, which have since grown with my growth, and impressed themselves upon all my footprints as the grand aims and objects of my life. I am now convinced that the poisonous agency of that subtle material is the only one of any consequence which seriously contests our claims to the possession of the healthiest part of the world, and which renders it forbidding as a residence to those who live in colder latitudes and higher elevations above the level of the sea.

Not satisfied, however, with the apparent virulence of malaria in this region, and having reason to believe that there were other places in the State where its intensity was much greater, I removed to the vicinity of those immense marl beds, which are freely intersected with switch cane marshes and river bottom lands, and in which I could have a constant supply of the poison to satisfy all my cravings for information upon the subject.

To-day I return for the first time during my prolonged absence,

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and find that those faces and forms which so wonderfully attracted my youthful admiration are no longer seen in the habitations of living men. The Fearns, Erskine, Russell, Bassett, Newman, and many others constituting the splendid galaxy, which glittered brilliantly upon the stage of action in those days, are now reposing quietly in their graves, doomed at last to yield to the deadly shafts from which they had so often protected the community among whom they resided; but their names are still venerated by many yet living, with a feeling nearly akin to that of adoration.

All things seem changed but the mantle of nature, and I am inexpressibly saddened at the view which even that picture offers to my inspection. The wanton ruthlessness of hostile armies has fatally marred the beauty and symmetry of those artistic assemblages which riveted the admiration of the world upon this portion of the State, and but few of the memorials of the past are left untouched by the gothic violence of fraternal warfare.

But "there is life in the old land yet," and it is a source of indescribable pleasure to the remnant of us who are still able to revisit those scenes of former grandeur that we may turn our aged eyes fondly and hopefully to the stalwart manhood which ennobles the present generation, pleading with wistful glances that they may emulate the virtues of their fathers, and remember the lessons of the past, only that they can better avoid the temptations which will assuredly beset the future.

If there were any doubts as to the wisdom of the provision which makes this Association migratory in its sessions, it would seem to be only necessary to point attention to the many new faces annually assembled as a convincing proof of the utility and expediency of the measure, and the mutual benefit conferred by bringing into active coöperation all those talented members of the profession who are timidly averse to taking leading parts, disinclined to long journeys from home, or, for various other reasons, are obliged, however repugnant it may be to their feelings, to remain away from the duties and enjoyments of our annual meetings. In moving from place to place in the State an acceptable service is performed to a large class of our medical brethren, and elicits in return all the ardor and congeniality with which each one is so abundantly endowed.

It is mainly to absence and isolation that is due the encouragement, if not the engendering, of the widespread apathy and indifference to the ethics and advancement of the profession which is so proverbial of the fraternity; whilst, on the other hand, frequent intercourse and mutual deference are promotive of respect and esteem, and is the sure means of fostering a taste for increased culture and familiarity with the duties we owe to the century in which we live.

You need not be told that it is the business of each century to scrutinize rigidly the inheritance it has received from preceding

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centuries, and to reject everything which is unphilosophical, immature, and worthless. But I may insist that it is only in the actual performance of this obligation that we naturally come to despise pretension and ceremony, and learn to conform rather to the spirit than the letter of the law requiring the thorough investigation of all subjects confided to our care, for the benefit of centuries yet to follow in the train.

The objects anticipated by the founders and friends of this Association are in strict accordance with the principles here enunciated, and it is therefore a cause for congratulation to its earlier members that the present session has fallen upon this intellectual portion of the State. For, as the man who desires to build a durable and magnificent residence calls to his aid the best topographers, architects and artists within reach, that he may have the benefit of their advice and assistance in the selection of the site, the symmetry and comfort of the superstructure, the style and finish most appropriate to its surroundings, and every other matter pertaining to its completion and endowment, so have we, in like manner, chosen this occasion to confer with you on subjects of vital interest to the honor and perpetuity of the profession in the State.

"*Come up now, and let us reason together.*"

Like the colors of the sunbeam in the spectrum, in which there are a few strong lines standing out distinctly and beautifully to the view, yet the keenest eye fails to detect any marked separation between them, owing to the delicate shadings which so perfectly merges them together in the group; so are we, in a similar way, completely identified and actuated in feelings and interests throughout all sections of the country. And to be thus identified in the pursuit of a common object, it is both becoming and requisite that we should be firmly cemented by a common bond of brotherhood.

Step by step we find it incumbent upon us to encounter and remove the obstructions which have been thrown across our highway, either by the negligence and incompetency of those who aspire to guide us, or by the ignorance and thoughtlessness of the people, who appear to be ever ready to pit against us any and all kinds of quackery in their power to commend.

It is necessary, therefore, that we should rally the wisdom and strength of our forces, restore order and harmony in our serried ranks, cast away every fear of ultimate failure, and present an unbroken front to all the hosts of opposition, threatening to delay our orderly progression.

There are, it is estimated, fifteen hundred physicians in the State of Alabama. To these the doors of this Association are always open, and for them our legislation is imperatively necessary for the purpose of securing harmony and concert of action. And when we have obtained the key to that desirable efficiency, it will be by no means difficult to press as one man upon any given point—whether

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it be in reference to literary observations, the regulation of ethics, or as influential citizens desiring redress of grievances at the hands of government. Our collective strength will be more seriously felt in the undertaking, and the ends to be accomplished will be rendered far more easy than by any other method we can possibly adopt.

It is painfully true that we are living under a State government which was the first, and for a long time the only one, to legalize the most arrant quackery; and it is also distressingly evident that its legislation is now reposing in the hands of a venal and corrupt majority of representatives; but what of that! Are we destitute of those resources of which every honest citizen is known to be possessed? Are we deficient in the popular influence necessary to secure the election of upright and sensible men to the Legislature of the State? Assuredly we are not. It is rare indeed that, as a body, we solicit anything at the hands of government; and on that score, if on no other, it would seem but reasonable that our petitions should be readily granted. Instead of this, however, we are at this moment suffering from a cruel disappointment in reference to our petition to the House of Representatives asking protection to our interests against former unjust legislation. That petition was signed by several hundred names, as respectable as any others in the State.

Now, the only reasonable construction that can be legitimately placed upon such a failure is, however we may try to disguise the fact, that there is but little vitality in the spirit which ought to animate us in every enterprise we may feel called upon to engage. It is neither necessary nor proper that the rights we hold in common with other citizens should be purchased at the price of dishonor. The position we occupy in society peremptorily forbids a leaning to such a course of procedure; and, which is of still greater consequence, our individual conscientiousness inspires an utter abhorrence for it when practiced, as it often is, by others. Do you ask, "How, then, shall we proceed in obtaining the rights we claim before the law"? The answer is plain and unequivocal. It is only necessary that this institution, which is yet in its infancy, but auspiciously inaugurated, should be made to embrace every physician of reputable standing in the State, and animation enough to concentrate the power it is required to have impressed upon the objects we may have in pursuit. In other words, to use a popular expression, let us become a "ring," and place each member in the kind of harness best fitted to the duties he may be called upon to perform.

I do not mean that we should prostitute our Association to the level of those venal companies whose sole power consists in their monied ability to accomplish corruptly the ends they have in view, nor do I entertain a fear that such a miserable construction will be placed upon my language; but as I have naturally drifted upon the subject in illustration of the utility and efficiency of closely organized corporations, I will take the liberty of adding that we can very

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properly avail ourselves of the advantages exemplified in the success of other institutions far less noble than the one we are here representing. It is simply *esprit du corps* that we are greatly needing, and until *that* feeling is obtained we shall signally fail in all our undertakings.

More especially is its great importance strikingly apparent at this time in the efforts necessary to push through the next session of the State Legislature the bill recently introduced granting us a lien next to that of the landlord for services to sick tenants and laborers, and to repeal a section of the revised code in relation to certain exemptions of property from legal execution and sale, in payment of just debts.

I cannot frame my language too strong in commending this matter to your consideration, and am quite ready to enter with you into a solemn pledge to persevere unflaggingly, leaving no resource untried that is at all likely to crown our efforts with ultimate success.

It may be well questioned whether landlords should be entitled to the class legislation which they now enjoy, and there is but little doubt in my mind that the act granting them a special lien upon the products of the farm was a law of their own making.

It is true the precedent is well established and prevails in all countries, having been handed down from feudal times, and continued upon the statutes of this republican form of government as one of the tyrannies of a barbarian age. But this fact does not, in my estimation, prove either its justice or propriety any more than did the laws against witchcraft, which so recently disgraced the annals of some of the New England States. The land owner is risking no more in renting his premises than you are risking in your services to his tenant, nor more than the mechanic and farm laborer in work done for the renter of the land. The difference is merely in the kind of capital invested—in his case it is land, in yours it is brains. And whilst, on the one hand, you are continually wearing away, with but few years at most to remain upon the earth, he is, on the other hand, in possession of a fixed investment in the land, which is susceptible of continual improvement, and increases in value in direct proportion to the increase of population. Where, then, are the reasons for perpetuating this gross fraud upon your rights?

I repeat, it is clearly my conviction that landlords are themselves the legislators who frame and impose this unjust law upon the people, and that it is one part of our duty as citizens to canvass the injustice of its bearings for our own benefit, as well as for the good of the public at large. That land owners are exceedingly grasping in their contracts is proved by the every day occurrence of their requiring personal security, in addition to the lien they are aware of holding upon the products of the farm. This want of liberality on their part may be safely urged as a reason against the lien, on the ground that it should place them on an equality in the collection of debts, with others not so favored by legal enactments.

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As to the exemptions of property from process of law, to which we are asking the attention of the Legislature, I can with much truth affirm that, in the long run, such legislation is exceedingly unwise, if not positively destructive to the principles of justice between man and man. Communities of men are of much the same nature as colonies of bees: protect them, and they will very soon decline to protect themselves; feed them, and the moment you stop your supplies they will either starve or begin to depredate upon their nearest neighbors. It is therefore a criminal mistake in our law makers to exempt any species of property, real or personal, from execution in the collection of honest and just debts. The moment a law is enacted for such purposes, the occasion is seized upon with infamous avidity by a large class of debtors to play hide and seek with their creditors all the rest of their lives. It is worse than vain, it is ruinous to "lay the flattering unction to our souls" that, in a few remarkable exceptions, a real beneficence has been conferred upon worthy individuals by the passage of such laws; for those very exceptions only serve to show in glaring colors the culpable cupidity of human nature, as observed in their general application.

In close connection with the foregoing remarks, I am permitted the privilege of bringing to your attention the excellent scheme of my esteemed friend, Dr. Wm. Desprez, who is about to organize and set in motion a "*Benevolent Aid Society*," on the plan of a life insurance company, solely for the use and benefit of the widows and orphans of physicians dying in the State of Alabama. To obtain its inestimable privileges it is requisite that an ample sufficiency of funds should be secured by legitimate means, and for this purpose the scheme devises that each applicant shall contribute an annual assessment, to be paid in semi-annual instalments of money into the treasury; the sum to be subject to certain contingencies, such as the age and health of the applicant. None, however, as I understand it, are to be rejected on account of either of these conditions. A certificate of membership is then issued, and although the holder should subsequently remove to another State, and die there, his association continues to exist, and his family shares its benefits in annual payments, the same as if there had been no removal.

No one will presume to deny that it is wise, as well as prudent, to avail ourselves of all the chances within reach to secure a comfortable subsistence for the frail and tender members of our families; it is impossible to over-estimate the beneficent tendencies of such a plan as we are now discussing; and I am conscientious in my belief that it is our bounden duty to connect ourselves individually with the advantages proposed, even though our worldly circumstances and prospects were of such a character as to preclude the probability of our families needing them after we have "shuffled off this mortal coil." There is a delicious consolation in the reflection that we have helped to secure the success of a truly benevolent enterprise, through the means of which some indigent and friendless

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orphan shall be made certain of a support until he is able to strike out in the cheerless world upon his own footing; and the thought is none the less solacing when we become assured that the ties binding the beneficiary to us are due to a sense of fraternal relationship. And but for the disintegrating tendencies of all large and voluntary corporations, the saddening feelings many of us have lately experienced on the question of endorsements, and the fact that the scheme would be benefitted but little by the connection, I would cordially commend its adoption as a part of the business of the Association. As it is, I am free to say, it commends itself to the humane sentiments of every physician in the State, and speaks well for the head and heart of its distinguished originator.

Among the legislative duties requiring a part of your serious attention, there is not one which claims a higher degree of importance than the *subject of medical education.* It is, however, so old and hackneyed, so battered and bruised, so threadbare, tattered and torn in the handlings it has received from its friends and its foes, and withal so little improved in its appearance by the attrition of opposing forces, that I can hardly find it in my heart to disturb the fretful moroseness into which it is threatened to be submerged. And yet, I am well persuaded that it comes directly within the province of medical legislation. The only question in my mind upon the subject is as to the places least sensitive and sore, on which I can lay my hand without the probability of arousing the lingering feuds that have glutted themselves upon its vitals all through the century now rapidly passing away.

It cannot be a matter of much astonishment to the historian that our profession, which, like a blazing meteor in the gloom of midnight, has for thousands of years challenged the gaze of an admiring world; but which, bursting into glittering scintillations and falling down at the feet of its beholders, remains no longer an object of superstitious veneration, because it is no longer the concentrated fusion of those high and holy aspirations which actuated the teachings of its earlier disciples and devotees.

Of one thing there is, in my estimation, but little ground for the footing of a doubt. The reckless competition existing between the numerous universities and colleges, the liberal tendencies of the day in opening doors to the lowest bidders, and the uncalled for and wasteful dissemination of the honors and dignities of the profession, are admirably calculated to defeat the progress of advancement, excepting that only which has a pernicious and degrading inclination.

In many instances it will have the same signification as "casting pearls before swine"; in others, the scandalous elevation of incompetent teachers; and everywhere the number of medical schools will be greatly multiplied, whilst swarms of doctors of medicine will issue from their doors, spread themselves broadcast over the country, and scuffle for practice by the example of underbidding learned at the apron strings of venerated Alma Mater.

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Aware, as I am, that there should always be a given share of modesty in speculations on this subject, and confident it is quite impossible to arrest the tidal wave on which we are drifting, I must nevertheless insist that there is no certainty whatever that the picture here presented is overdrawn, or painted in inappropriate colors. It is but recently that I was told with masterly emphasis, by a member holding a high position in the profession, "that this question of college fees is a dead question, and can never more be even galvanized into the appearance of life." Now, I beg the liberty of saying, with due deference to the member, that it is extremely difficult to many of us to realize the truth of the assertion. But if it *should prove to be true*, it would seem to be only in keeping with the tendencies of human nature, that the profession in this State—the only one so far where the question is thus considered—should be entitled to a liberal share of the honor due to the singular discovery, and should hasten to improve upon the charitable example by abolishing all fees for services rendered to the sick, lest some other outside humanitarian snatch the coveted glory from their mercenary brows. *Where will this thing end?* The question is a momentous one, and well worthy your earnest consideration, as it involves the problem of meat and bread to those who expect to continue the practice of medicine for a livelihood.

I cannot conceive how the subject is to be ended. The idea of adopting a temporizing policy is simply an artifice too despicable to be taken into the question. And the fear of damaging consequences to the peace and harmony of the Medical Association of the State is an invidious reflection upon the courage and integrity of the members who compose it. To neither am I at all willing to concede a particle of my belief.

There is one branch of medical education, a very important one at that, which I can realize as entirely practicable, if we will only consent to pledge ourselves firmly in adhering to its mandates. I refer to *the reception of students in our private offices.* In that department we have the unequivocal prerogative to select from amongst the number of applicants those only whom we know to possess the natural and acquired abilities to become useful and ornamental members of the profession. And we become recreant in the duties we owe as guardians of the public health, dastards in the obligations we are under to the honor and advancement of the science of medicine, and criminal in our panderings to the vanity of those whom we know to be destitute of those noble aptitudes, mental, moral and physical, which aggregate the characteristics of a successful practitioner and devotee to the principles inculcated in the art we profess to teach.

I am not aware of any standard that exists in reference to the admission of private pupils, nor do I know if any general rules will be adopted by which uniformity may be obtained, and all objections removed that seem likely to embarrass the undertaking. But of one thing I am almost persuaded, and that is, unless we seize the

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reins, and take the initiative steps ourselves in this direction, there is not the remotest probability that any one of the numerous colleges—whether it belongs to the free ticket class, or otherwise—will ever turn an incompetent student from its doors. The *eclat* of a long list of matriculants is greatly too fascinating to be resisted by the best of them, however large their pretensions may be for the honor and dignity of the profession, and however respectable and well qualified the teachers may be who adorn its splendid lecture rooms.

If, therefore, in your deliberations on this subject, you should concur with me in the propriety of inaugurating a code of regulations in relation to the reception of students in private offices, I would suggest that the most effectual plan for the execution of the rules you may think proper to establish is, to request county and local societies to take the matter in hand and admonish their members that it will be regarded as derogatory to the honor and interests of the profession to teach the art to any one whose preliminary education is deficient, whose morals are questionable, and, in a word, whose aptitudes are inadequate to the duties which will be exacted of him as a custodian of the public health. And, as no man ought to expect that private instruction is a valueless consideration to the preceptor, I would also suggest that a fee should be in every instance exacted, the amount being uniform throughout the boundaries of the State. Office terms ought to be regarded in the same light as apprenticeships, and students should be required to perform all the duties of the general practitioner, for the purpose of familiarizing their hands with these requirements, and also for the purpose of making adepts of them under the critical eyes of the master. If the preceptor imparts conscientiously the full tuition which is expected of him according to the obligations he owes to the profession, the student will become well prepared to enter upon his collegiate career, and no apprehensions need be felt as to his success in practical life, after he has obtained the degree of doctor in medicine. And in consideration of these services, no one will question the propriety of a liberal compensation to the teacher.

I am aware that there are many physicians who never exact payment for office instruction, and I might say in reply that the students of such preceptors were, as a general thing, badly prepared to become ornamental in the ranks of the profession. It is, nevertheless, true that isolated examples are not infrequent where ambitious aspirants climb many steps upon the ladder of fame; but it is a pitiable fact that such instances have to contend with a hundred fold the troubles and difficulties which, under a different method of instruction, would have rendered the ascent a matter of easy and pleasant accomplishment.

In close connection with the subject upon which I have just spoken there is another, bearing such an intimate relationship that I deem it important to touch upon the matter before proceeding

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further in the order allotted to this address. I refer to the propriety of establishing *District Medical Societies* in the State.

It is neither expected nor intended that these strong branches of the State Association will in any manner embarrass the settled order of county and local societies, nor come in conflict with the plan of a new constitution, which is to be reported on at an early hour of the present session. I am quite confident that the day is not far distant when district societies will be regarded as the most powerful auxiliaries that can be devised in assisting and perfecting the labors of our State Association, under any form of constitution we may choose to adopt, or as respects the character of our transactions in a literary point of view. Three or four counties having social affinities for each other—for there is an evident affinity between counties, as well as between individuals—can be grouped together in the form of district conventions, hold semi-annual sessions, represented by delegations, and transact much important business, which neither county individually can manage in separate organizations. Especially will this be the case in the regulations proper for equalizing the rate of fees for services rendered to the sick. But this duty, however imperative it may seem to be, is the least in importance on the list. Researches, investigations, and corrected local observations on a much larger scale can be, in this way, better instituted, discussed, and perfected than in county or local societies alone; and, besides, the boundaries of fraternal fellowship will be greatly enlarged; a noble emulation will become diffused amongst the members; and, in a word, all those advantages accruing from honorable convocations will be immeasurably enhanced in the associations of which I am now speaking. I shall be made happy when the proper steps are taken in the inauguration of this measure, because I am well satisfied of the correcting and ennobling influence that will be exerted upon the destiny of the local, county, and State organizations; and will predict that, as a pebble cast into a pool of water disturbs its surface in waves which continually increase in diameter, so, in like manner, will district influences be sensibly impressed upon our State medical literature. Neighboring districts will very soon extend to each other mutual greetings and congratulations, and delegations will be sent out in all directions to confer upon matters of vital interest to the profession at large, as well as upon questions of utility, the bearings of which are restricted to the limits of their own immediate provinces.

It is not objectionable to form them along the different lines of railroad communication, but it is by no means essential that they should be confined to such favored localities: for they can and ought to be so constructed as to embrace an area, the distance in which from one place to any other in the circle will require but a short day's ride in any direction. This can be easily accomplished; and it would be a serious reflection upon the hospitable character of Southern physicians to suppose that any expense would be

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incurred in attending the meetings, other than the loss of time, and that is always counterbalanced by the improvement necessarily derived from the intercourse of minds well stored with intellectual resources.

After having in this manner established favorable standpoints for general and special observations, I am prepared to believe you will concur with me in the propriety of appointing a special committee, charged with the duty of reporting, at your next session, *the history of the great malarial epidemics*, which have repeated their visitations at something like regular intervals of time. It does not seem to have occurred to the minds of many medical observers that these visitations invariably linger through a period of three years, and that in all probability, the true reason for the want of punctuality in the dates of their recurrence is due, in a great degree, to the increased density of population, and the steady progress made in agricultural improvements. Three of these epidemics have occurred during my lifetime: that of 1820, 1821, 1822; of 1839, 1840, 1841; and of 1866, 1867, and 1868. The space of time between the first and second periods being nineteen years, and between the second and third twenty-seven years. It may yet become a question of much importance to medical philosophers, to determine the influence which was exerted by the late war upon the protracted delay of the last visitation. My own conviction is that, instead of creating, or even encouraging the overdue return, it is quite probable the appearance of the epidemic was hurried along, and the interval of time much shortened by that disastrous event. I reason that it is in keeping with violent revolutions in human affairs to disturb and disarrange the laws of health, and to invite the prevalence of malarial epidemics; especially as, at such times, no regard is paid to the advancement of agriculture, and the *status* of civilization is either at a stand-still or on a fearful retrogading tendency.

Is it at all improbable that the *interval* between the last two epidemics might have extended over a *longer* period, if the war had not occurred? I wish to be distinctly understood as having no reference to those sectional visitations of malarial fevers, which occur here and there every few years, and are strictly due to the variations of heat and moisture, and their attendant consequences; but to those world-wide and sweeping epidemics which seem to require years for the accumulation of sufficient virulence to infect all classes of inhabitants, and leave their impressions upon diathesis for a long time after they have disappeared. Indeed, this is another matter in which we are immediately and deeply interested—*the important change in diathesis which every great malarial epidemic invariably imposes upon human constitutions.* The fact itself is not so much in question as the *kind and degree* of the change imposed. I include under the general heading those sweeps of Asiatic Cholera which are quite sure to follow in a few years the train of our home-made epidemics, and are, beyond question, due to a highly intensified condition of malarial poisoning.

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There are other matters closely connected with this subject which are susceptible of a partial explanation, but I can do no more in this place than refer to them in a casual manner, in order to direct attention to their regular occurrence. Between those great malarial epidemics, with something like regularity, there occurs, in the Southern States, a wide-spread form of typho-malarial fever—say six or seven years afterwards; and, later still, a malarial dysentery overshadows all interest for the time in every other form of disease. In 1848 the entire country was infected with a serious form of typho-malarial fever; and in 1854 a violent epidemic dysentery prevailed, with great fatality. I mention these occurrences merely to show that there is a definite connection between the great epidemics and the comet-like train which follows their appearance in a regular and orderly manner; and to suggest that, since the last epidemic, we may rationally expect the same character of rotations a few years hence.

There would seem to be a peculiar appropriateness in encouraging such investigations in the climate of Alabama, as it is here that we can find the poison in every shade of its intensity, and its varying effects in the production of the different classes of disease afflicting mixed populations.

Who can doubt that, when the nature and origin of malaria is once discovered, the improvements of chemistry will forever remove its presence from the face of the earth!

Until recently, I had allotted a large space in this address to a critical review of "*A Plan of a New Constitution*," which was submitted to this Association at its last session, by Dr. Jerome Cochran, and was referred to a special committee, to be reported on at the present meeting; but fearing its length would occupy an undue share of the time at our disposal, and from assurances received from a majority of the committee that it would be adversely reported upon, I concluded to merely call your attention to the subject, and suggest that, as we have prospered beyond our most sanguine expectations under the old Constitution, there would seem to be but little reason to cast it aside, and hazard our future success with the chances offered by the complex and seemingly impractical character of the new instrument. I will also add that the author has not, in my estimation, correctly discriminated the distinction between fundamental principles and subsequent legislative enactments. Those provisions, for example, which fix definitely the amount of annual assessments upon all classes of memberships, are much too absolute and permanent in their nature for adaptation to the uncertainties and wavering condition of the money market, and should therefore be allotted to the legislative department, in the form of by-laws, so that immediate alterations could be made at any time, to meet emergencies as they appear upon the surface of human affairs.

Of "Article 64," quite as much, *if not a great deal more*, may be said in its condemnation as a fundamental rule, in the organization

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of a reputable and scientific association. It smacks too much of the club-room to meet the wants of a medical association, and, if adopted at all, would appear much better in the form of a by-law than as one of the principles of organization. But feeling assured that you will give the scheme a careful and dispassionate examination, I have said enough to convince any one of the truth of my allegation, that it is remiss in appropriate discrimination between fundamental rules and what ought to be included in subsequent legislative enactments.

But let your deliberations on the question of a change of constitutions be what they may, there is no room to doubt the propriety and expediency of a radical change in the method of dispatching business in our annual sessions.

The Association has acquired so much magnitude, although still in its infancy, that we find it impossible, without indecent haste, to compress all its labors into the time usually allotted to its meetings. These labors are also becoming so diversified in character that but little order can be observed in its general arrangement; and, as a natural consequence, many questions of great importance are postponed to a future time, whilst others of lighter bearings are acted upon without that mature deliberation which is due to the respectability of the Association. Valuable papers are turned over to the mercies of the Publishing Committee without a hearing, and others of less importance usurp dignities above the claims to which they are justly entitled. In either class of cases great damage is done to the feelings of all the parties immediately involved, and much of the interest that induced a full attendance is unquestionably and materially destroyed.

I therefore beg the liberty of commending to your attention the propriety of assorting the work of the Association into several "Sections," as is the case in the American Medical Association, which may serve as a guide to your choice in relation to the different departments. And although you may be inclined to deride my selection of the National Association as an example for you to copy after, I can assure you in all seriousness that, whilst I regard the present *status* of that institution as little less than a monstrous advertising machine, it is, nevertheless, an unvarnished truth that its various sections comprise the only real advantages which are at all worthy of imitation and confidence.

And now, gentlemen, having performed the duty assigned me in this time-honored task, it would seem but right that I should tender you my grateful appreciation of the patience and respect which you have so generously accorded to it. Relentless time conveys in its flight many delicious mementoes of the past, and we are apt to treasure them according to the happy events with which they are intimately associated.

In the events of this day, I shall, all the rest of my life, continue looking back in blissful recognition of the faces and incidents, the honors and enjoyments, and the exquisite drapery which an ardent

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fancy always lends to the splendor of the assemblage, as only a fervid imagination can picture its brilliancy, magnitude, and distinguishing characteristics!

Sterne tells us we water a flower because we have planted it. This trite aphorism is peculiarly appropriate to my feelings in reference to the growth and perpetuity of our Association. I am contributing in a feeble manner all the energies at my command in the promotion of its interests and ultimate destiny. A large and respectable majority of the physicians of the State are pursuing a similar course of conduct, but with abilities and energies infinitely greater than any in my power to bestow. Its grand aims and objects are being thus watered because they are planted securely in the strongholds of our warmest affections; and it only remains that we should carefully select the germs of our own experience and disseminate them into the hands of the young and vigorous members of the profession, trusting hopefully that no thorns will ever spring up to hazard the peace and harmony with which we have so far been abundantly blessed.

Nor is the aphorism less appropriate to the individual physician in the conscientious discharge of his duties to the sick. He is continually planting in his heart the choicest and most fragrant flowers from an ever-blooming philanthropy, and in watering each flowret the rough asperities of his nature are ever washing away in the stream. It may be that there is no adequate monied compensation returned to him for the wear and tear of mind and body, and that the gaunt forms of neglect and destitution are pressing sorely upon his powers of endurance, but, notwithstanding these formidable and repugnant images, he steadily perseveres in cultivating and irrigating the luxuriant growth with undiminished anxiety, until, with exhausted energy, he comes to look upon death as a dear friend who will open to him the door of eternal recreation and enjoyment.

It is true, he is calculating all through his busy life upon being one day able to retire from labor with a competent support, but these expectations are too often blasted, like the patient expectations of astronomers waiting upon the transit of Venus, which occurs but twice in a century, and when the day arrives for correcting their life-long calculations, behold! it is cloudy. His existence may not always be as unruffled as the old Venetian dial plate, the motto on which is, "I number none but cloudless hours"; it is even possible he may have "to brave the rich man's contumely, and the proud man's scorn," owing to a generous negligence in pressing his honest claims against the widow and orphan in distress; but when at last he comes to reap the harvest of his labors—the labor of a well spent life—with the records of his carefully preserved observations on one side, and on the other the grateful appreciation of those who have enjoyed the advantages of his professional skill—like the Roman matron, he can proudly lean upon them and fearlessly exclaim: "'These are my jewels'; touch them at your peril!"

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ANNUAL ORATION.

By J. S. WEATHERLY, M. D., of Montgomery.

It is a custom as well as a law of our Association, that one of its members shall deliver an oration at the commencement of our annual session. It is also proper and usual that the subject chosen for the oration should be one having some connection with the profession, at the same time having such general interest that the non-professional hearers who may honor us with their presence may be entertained and instructed. Having been elected at our last meeting to fill this difficult role, I have been at great loss in selecting a suitable subject, that would be alike interesting to doctors and to laymen. I have been more especially solicitous, when thinking of some of the brilliant and learned productions that have been delivered before this body at its previous meetings; and knowing how sadly deficient I am in those graces of oratory which make even a common-place effusion acceptable to an audience.

In lieu of these attractions, I crave your attention and sympathies for my theme, which I know will strike a responsive cord in every manly heart before me, and I hope will not be wanting in interest to the ladies themselves.

In view of the great questions of the day, woman's rights, female suffrage and female doctors, I have ventured to choose "Woman: Her Rights and Her Wrongs," for my subject. I do so because it is a living question, and it will probably be for this generation to solve some of the disputed points in regard to her position in relation to society and business.

The traditions of the past will avail us no longer, for woman has taken a "new departure," and is now clamoring for rights and privileges, which she says have been so long withheld from her by man's brutal force. I shall, in the remarks which I am about to make, endeavor to do her full justice, not shutting my eyes to the inevitable march of events, or closing my ears to the pleasing sound of progress which is echoing throughout the world.

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If woman is degraded, as some seem to think, I wish the culprits who have been guilty of the gross injustice unearthed and brought to light and to punishment; and I feel sure that I shall be seconded in this desire by all right-thinking men, for I am confident that no man, who is a man, would wish to live in a land of degraded women. I believe no nation has ever arrived at a high and permanent point of moral and mental culture where the mothers of the men were bowed down under a yoke of tyranny. The mothers of Rome, when she was mistress of the world, are still celebrated, and are considered types for womanly culture and dignity.

In discussing this subject, I feel that I shall have to tread upon tender and debatable ground, for the women of this country are on the alert, and are foremost in their demands for place and power. But while all probably feel some interest in the matter, a few are rushing headlong on the road which they say is progress, but which some good people think is progress in the wrong direction. And what they claim as the light of truth is only an *ignis fatuus*, leading them on into a labyrinth of difficulties, from which it may take ages to extricate them.

It behooves the women of the United States to ponder wisely upon their condition. It is here in this free country, where everything runs riot, where even freedom itself is in danger, that this problem of woman's rights is likely to be solved.

> "In the long vista of the years to roll,
> Let me not see my country's honor fade;
> Oh! let me see our land retain its soul!
> Her pride in freedom, and not freedom's shade."

What will be the result to freedom and to woman herself of this agitation? Will she mount upward and onward in a grand career of usefulness to herself and to coming generations? Or will she sink, dragging man with her, into the dark ways of sin and immorality, delaying the progress toward perfection of the human race for years to come.

We hear a great deal of nonsense and twaddle, by both men and women, about the equality of the sexes. And, if the great law of nature had not been revolving in the same course for the last six thousand years, we might suppose that the order of creation was to be reversed by those wise men and women, and that we were to have all men in this world, or at least a merging of one sex into the other at the pleasure of these people. Fortunately, the All-wise Creator stamped indelibly and unchangeably the difference between the sexes. All the speeches and resolutions of the Woman's Rights Conventions cannot change this grand eternal law of nature. And whether we sprang first from a monkey or directly, as the Book of Books teaches us, from the great source of all created things, the

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law is inexorable, and woman is, or ought to be, what God made her—the best part of creation.

> "For why in this work did the creation rest,
> But that eternal Providence thought you best
> Of all his six days' labor? Beasts should do
> Homage to man, but man should wait on you;
> You are of a comelier sight, of daintier touch,
> A tender flesh, and color bright, and such
> As Parians see in marble; skin more fair,
> More glorious head, and far more glorious hair,
> Eyes full of grace and quickness; purer roses,
> Blush in your cheeks; a milder white composes
> Your stately fronts; your teeth more sweet
> Breathes spice, and nectar drops at every kiss."

Speaking in a purely physical sense, man of course is the superior animal, and deprived of the elevating influence of good women, as we see during the first eighteen hundred years of his existence, a very bad animal. He was given a stalwart frame, large bones, and coarse muscles, that he might subdue the earth, and support himself by the sweat of his brow; yes, and support woman too. The lines of beauty were not observed so nicely in him, for it was intended that he should be a working animal. She was made beautiful that she might not only be pleasant to look upon, but also be an incentive to man to labor.

In looking back at the history of creation we must come to the conclusion that woman had a fair start with man. In fact, she seems to have been created superior to man in everything save physical strength. Her first introduction to us, beautiful and persuasive then as now, shows wherein she has control of man. Eager after knowledge she has made a step forward, and, like a good wife, she is not willing to partake of the pleasant things of this world without sharing with her husband. I do not blame Adam so much for yielding to temptation, coming, as it did, in such a beautiful shape, though I do blame him for trying to throw all the onus upon his wife. He should have come forward and protected her from temptation. He failed in his duty then, as a good many husbands do now, in not asserting his superior judgment and guarding her against the snares of the devil.

The deed, however, was done, and woman was degraded, and for eighteen hundred years no woman, save Eve, has left her impress upon the world's history. That she was corrupt we can have no doubt, for we read in sacred history that man became so wicked that he had to be destroyed from the face of the earth. We have reasons for thinking, however, that woman retained her charms even in her wickedness, for it is said that angels from heaven were attracted by her beauty.

> "These are they then
> Who leave the throne of God to take them wives
> From out the race of Cain; the sons of heaven,
> Who seek earth's daughters for their beauty."

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After the flood we find that woman begins soon to regain her lost influence for good, and that events pregnant with the deepest interest to humanity are being shaped and controlled by her actions. She seems to have emerged from the sombre atmosphere of the past with her moral nature purified, and fitted to become the leader and guiding star in all things pertaining to goodness and spirituality. Her affections governed her then as now, and we find that the great law-giver, Moses, was preserved by her love and foresight. All through the history of the Jewish nation, be it ever remembered to their praise, the Jewish women preserved their faith, and though the men were constantly running off after false gods, the women were true to their faith and religion; and we see them exercising their influence for peace and harmony, as in the case of Abigail, who, when David would have destroyed her foolish husband, put her woman's wits to work, and after an interview with her he exclaims: "And David said unto Abigail, Blessed be the Lord God of Israel, which sent thee this day to meet me. And blessed be thy advice and blessed be thou, which has kept me this day from coming to shed blood, and from avenging myself with mine own hands." Beautifully foreshadowing the mission of woman not to engage in the strife and turmoil of the world, but to promote peace and good feeling among men. I deem it unnecessary to waste time in discussing the point as to the superiority of the male over the female mind. There are few, I think, at the present time who are willing to contend that there is any great difference between the sexes, so far as mere intellect goes, provided both have received the same care and culture. The physical formation of woman and other natural causes, such as occupation, maternity, &c., sufficiently account for any apparent inequality. It is true that in the world's history few female mathematicians, artists or warriors have left their names engraved upon the tablets of fame; enough, however, are found to show their capability in all of these things. And when it comes to authorship, we find that they have written books which will last as long as the world lasts, showing as acute reasoning, as graceful diction, and as bold invention as the writings of men. But it is in the exercise of her influence for good where she looms up far above man; and in looking back through the long vista of time to the period when man first began to leave his record upon the imperishable pages of history to the present, "we find fair woman casting her mantle of refinement over his social relations, making him happier and wiser and better, according as she is appreciated." We also see that where each observes the sphere for which they were intended, that there also we find the most distinguished of both sexes.

Where an exception occurs to this general law, as in the case of Joan of Arc or Charlotte Corday, and a number of others that might be mentioned, they remind us more of brilliant meteors, bright and glorious if you please, but bodies that have left their own proper orbits, shooting athwart the sky, illuminating it for one

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bright instant, and then the glory fades, and darkness closes around them.

"In the different departments of nature it is a universal principle that the object sought to be attained is in strict accordance with the quality of the materials she employs for her purpose; and in this respect men and women in the law of their adaptability, form no exception to this general rule. The same finger of infinite wisdom which paints the color of the rose, and guides the planets in their courses, has so formed us that we may be equal to consociation with angels while we perform our duties upon earth; the consummation of this depending largely on the attention we give to those cultivating influences with which Providence has surrounded us."

Man and woman both have their well-defined parts to perform, both having a common destiny, resembling somewhat two rivers seeking an outlet into the sea. They flow through different channels, but the aim of both is the same. Her course like the stream which flows through gentle meadows of grass and flowers; his the wild mountain torrent, dashing through gorges and leaping precipices, causing the wild roar of the cataract, but bearing everything before it by main force. For the work peculiarly appropriate to woman, she of course is far superior to man. Her work, however, does not tend toward massive strength either of body or mind, but rather to a gentle modelling of both.

> "The mission of woman on earth! to give birth
> To the mercy of heaven descending on earth.
> The mission of woman! permitted to bruise
> The head of the serpent, and sweetly infuse,
> Through the sorrow and sin of earth's registered curse,
> The blessing which mitigates all; born to nurse,
> And to soothe, and to solace, to help and to heal
> The sick world that leans on her."

Purely mental culture in her, yielding to the affections, which, being more stimulated, predominate. Where these go hand in hand, both the affections and mind receiving the best culture, we find the highest type of womanhood—I might say the highest type of humanity. Women like the mother of the Gracchi, equal to the best of the Romans in birth, education and wisdom, yet could boast of her children as her jewels, and whom, Plutarch tells us, brought her children up with so much care that, though they were of the noblest family, and had the happiest genius of any of the Roman youth, yet the education given them by their mother was allowed to have contributed more to their perfections than nature.

The history of the world proves that woman is capable of doing almost everything well; but the question is not what she can be forced or may choose to do under some circumstances, but it is, what is best and proper for her to do? Individually, I feel very much upon the subject of what woman ought to do as the spicy Gail Hamilton, who, in a recent work, says in regard to the discus-

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sion upon woman's rights: "The opposing speakers demand that she shall continue to do man's work with woman's disadvantages, but the true woman's right is not to do man's work at all. The radicals demand that women shall support themselves by doing man's work, and therefor receive man's wages. Their opponents practically maintain that women shall support themselves by doing man's work, and receiving therefor whatever man shall choose to allow them; but the true woman's right is not to support herself at all. I mean this in the broadest and most palpable sense. Women ought to be supported by men. The building can never stand firm until we begin on this foundation." And, to my mind, she has very nearly foreshadowed the true platform of woman's rights. I believe that it is every man's duty to support one woman, and no woman is fulfilling her destiny who is not a wife and a mother.

> " For contemplation, he, and valor formed;
> For softness, she, and sweet attractive grace;
> He for God only, she for God and man."

The great mistake of some of the women of this age is that they demand not only to do man's work, but, as a natural sequence, to be treated like men. Unhappy day for woman will it be when she succeeds in driving away from man's heart that innate feeling of chivalric sentiment which most men feel for her—the feeling that she is better and purer than he is—and we beg of the women of the period not to entirely efface the fancy, if you will, but a most pleasing one, from our minds. Let us still think with the poet—

> " Oh woman! lovely woman! nature made you
> To temper man; we had been brutes without you.
> Angels are painted fair to look like you;
> There is in you all we believe of heaven—
> Amazing brightness, purity and truth,
> Eternal joy, and everlasting love."

Rather than have the world filled by such men as Victoria Woodhull and S. B. Anthony and their class, or such women as Theodore Tilton and that class, I say let the world end now, before it gets any worse. But it would be much better to get rid of these pestiferous females, who are correctly described in the couplet—

> " Naught can to peace the busy female charm,
> And if she can't do good, she must do harm."

And harm they are doing, not only to females, but to the whole human race.

What effect upon the morals of her hearers must such a speech have had as S. B. Anthony delivered in Washington the other day; sentiments and language that I would not dare repeat in your presence to-night. Yet, she is one of the great leaders of progress.

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The clamorers for women's rights demand that she shall be placed upon an absolute equality with man in every particular, enjoying all the privileges that he enjoys, doing the same work, and receiving therefor the same pay. But she must recollect that when she gets to doing man's work, she must do it as well as he does it, or suffer the consequences. There is no chivalry in labor or commerce, and when she enters the field as a rival to man she must not object at receiving the same treatment as male rivals. Whoever does the most and the best work must succeed. And if women do the same amount of work, and as well as men do it, of coarse they ought to receive the same pay. They must, however, submit to the same treatment, for they cannot be treated as men and women too. She must take her choice. There is plenty of suitable work in the world for all the men and women in it to do.

> "I might say in a world full of lips that lack bread,
> And of souls that lack light—there are mouths to be fed;
> There are wounds to be healed, there is work to be done."

The great trouble is that most people do not want to work. They wish to do nothing, and yet grumble if they are not paid for it.

This is the fault of both men and women, but more especially of women, if we are to believe Gail Hamilton, who says:

"One would suppose from what he hears that the great and crying want of woman is work, or as it is sometimes put, a fair day's wages for a fair day's work. This is not so. What women want is not work, but freedom to receive money without working. They wish to live like women and be paid like men." For this, she says, she does not blame them, for they were made to spend money, not to earn it. "They take kindly, because instinctively, to spending money, and hardly, because enforcedly, to earning it." But a great many women are forced to earn money for the support of themselves and families, and, shame to the name of man, frequently for the support of a trifling, drunken husband. The question comes up whether she can best do it as a woman or by unsexing herself and working as a man, thereby running the risk of becoming corrupt like man, and also of losing the sympathy and support of the sterner sex, who are always disposed to look kindly upon a woman struggling for herself.

We will glance here, *en passant*, at female suffrage, as a means of redress for woman's wrongs. It is a question of vital importance, it seems to me, not only to women, but to men and governments. It is something also which cannot be put aside by jests or sneers, but must be met sooner or later. How the agitation will end I cannot pretend to say. A few years ago the abolition of slavery had fewer advocates than the women suffrage has to-day. It was looked upon as an idle dream of fanatics and enthusiasts, yet behold the result.

It concerns the good and wise men and women of this country to

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ponder well the enquiry: Whither are we tending? What effect will it have upon society when women abandon the care of home and chhildren for the jury box and hustings? That women can vote as intelligently as most men, I have no doubt. That is not the fact that should startle us. It is, will it be best for her to do so? Will it remedy any of the evils of which she complains? And, above all, will she be a more competent help-mate to man? Will she be a better instrument in the hands of God for the advancement of religion and morality? Will "Domestic happiness, the only bliss of Paradise that has survived the fall" be increased? Will the country be moved forward in the path of greatness and grandeur and purity more rapidly? Will men be better, or politicians more honest? These are all grave questions, pregnant with good or evil to society. It is useless for us to close our eyes and say, that this thing cannot be. It may be a long time before we of the South have any experience with this trouble; our women, thank God are women still.

> "Soft as the memory of buried love,
> Pure as the prayer which childhood wafts above."

They have always kept aloof from the demoralizing issues of the day, and I feel proud that I can say to-night that our Southern women are the purest type of women upon the face of the globe. "In that stillness which most becomes a woman, calm and holy," the Southern woman "sitteth by the fire-side of the hearth, feeding its flame." May she continue so to do, furnishing an example of woman's duty to her aspiring Northern sisters.

I think the time has arrived for the real women of this country to arise and assert *their rights*. They are in great danger of suffering unknown evils from the work of their progressive sisters. I say, let them demand their rights, and contend for the dear privilege of being women still. Let them not relinquish the claim of being justly designated the purest and best part of created things. Some think, myself among the number, that we have too many voters now, but if females are added to the list, there is some danger of our having too few; for when they become so interested in politics, they may pass a law cutting off the supply. In connection with this I will read an extract for the benefit of my male hearers, showing them what is probably in store for them when the strong-minded get to making laws.

In some parts of the world where women have some rights, which, fortunately for some of us, they do not as yet have in this country, "when a child is born the mother presently goes to her work, but the father begins to complain, and takes to his hammock, and there he is visited as though he was sick and undergoes a course of dieting which would cure of the gout the most replete of Frenchmen. How they can fast so much and not die of it is amazing. When the forty days are over they invite their relations,

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who, being arrived, before they set to eating, hack the skin of this poor wretch with Agonti teeth, and draw blood from all parts of his body in such sort that, from being sick from pure imagination, they often make a real patient of him. This, however, is only the fish, for now comes the sauce, which they prepare by soaking pepper in water, making an infusion, with which they wash him, giving him a foretaste of that hot region which we read about. After this little pleasantry is over they put him back to bed, and go and have a good time at his expense. His troubles, however, do not end here, for he is kept under the strict surveillance of his mother-in-law, or some other competent female, for six months longer. And he dares not grumble, unless he wishes to pass for a coward or a wretch." This it seems to me is about as near changing the relative positions of the sexes as can well be imagined. Yet it does not appear to have resulted in benefit to either sex.

Jesting aside, it is difficult to perceive how the right of suffrage is to redound to the good of either men or women. The strong-minded women of history have their memories respected and loved more for their womanly failings than for their manly acts; and though we admire the splendid creation of Shakspeare's Lady Macbeth, we feel that when she stoops to do the dark deeds which bad men recoil from, that she ceases to be loved by her husband, and he contemplates her with a strange feeling of awe, and bids her "bring forth men children only," evidently recognizing that women of her sort were out of place. Cleopatra, another one of the strong-minded bad women,

> "The serpent of old Nile
> With her sweet betraying smile,"

Ambitious and wicked as she was, yet there is a kind and forgiving feeling for her when we think of her love for Mark Anthony; and we know that she must have been a real women or she never could have excited the passion in any man's breast that he felt for her. If the object of life is to make us all better and purer, so that we may be fitted for the next world, it is difficult to see how the right for women to vote could help us on. The great probability is that she would sink down to man's moral level, instead of raising him up to hers. The experience of the world is, that when women and men come in frequent contact with vice and immorality, that it soon ceases to excite their disgust or aversion.

> "Vice is a monster of such hideous mien,
> That to be hated needs but to be seen;
> But seen too oft, familiar with its face,
> We first abhor, then endure, then embrace."

The most probable consequence will be, if female suffrage prevails, the best men and women would keep away from the polls, and

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the worst of both sexes would get into power, and rule to the great detriment of society.

By some one it has been said that the American ideal of woman is of two kinds, the one, the clever manager, the other the stump orator. It is to be hoped, however, that we have a large class of large-hearted and large-brained women who belong to neither class, "whose idealism lifts them above buck-wheat cakes and female suffrage, investing the subject of sexual relationship with that feeling of sanctity so essential to our welfare and happiness. "Painful as it is to make the confession, we must admit that, through the vague and impetuous restlessness, the extreme thirst for superficiality, and the tendency towards indolence coupled with almost total disregard for modesty which characterizes modern women on the one hand, and the numerous vitiated propensities which characterize man on the other, we are in this respect very far from being in a healthy state of progress. To the superficial and frivolous, the ideal character of sexual attachment may change, chamelion-like, from time to time; but to those who have insight enough to look below the surface, there is but one consistent method of interpretation, based on the profoundest workings of psychological law."

The clamorers for female suffrage spring from those superficial observers, men and women, who, as a general rule, hold the marriage vow in contempt, and also not only believe in the absolute equality of the sexes, but in the indiscriminate mixing of them. But as I am no politician, I pass on to the consideration of another division of my subject—women as doctors. Before I say anything on this branch of my subject, I wish to say that I have no prejudice against female doctors.

In the discussion of the question, which occurred last spring in San Francisco before the American Medical Association, I stated, to the great amazement of some of my friends, that I would not hesitate to consult with a respectable and regularly graduated female physician. At the same time, I must add that I am firmly convinced that it is not woman's province. It is the opinion, however, of a great many good women and men, that if there is any profession for which females are peculiarly adapted, it is medicine. One great reason assigned for this is, that they are the most numerous class of patients. Unfortunately for the sex, Nature has fitted them more especially for patients than it has for doctors. It does seem to me that if woman was peculiarly intended by Nature as a physician, that during the last six thousand years she would have created an opportunity of demonstrating her transcendent abilities in this line. Yet, during this long time, scarcely one has left any record as a general practitioner. Two in France, Madame Lachappelle, and her pupil, Boivin, have left imperishable names in one branch. They both, however, were connected with large charitable institutions, and their reputations were gained more in these than in general practice. In searching for the authors who have proven

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themselves real benefactors to the female race, and who have succeeded in establishing Gynæcological Medicine upon a sure foundation, we find no females. Our own Sims probably stands foremost. And Alabama should be proud to know that his first honors were won upon her soil. Our State can well boast of having contributed as much to the relief of suffering females as any other portion of the globe. With her Sims, Bozeman and Nott, she has three stars of the first magnitude in the department of Gynæcology.

I say again, if woman is so peculiarly constituted for a physician, it is passing strange that she has been so long in proving it. I believe there has been no laws prohibiting her studying medicine, certainly none prohibiting her from preparing herself for practice upon her own sex.

Physicians, as a class, are large-hearted and, I might say with propriety, large-minded men, and I do not believe that they would entertain an unfounded prejudice for or against anything without a good reason. Yet I doubt if there be one doctor before me to-night who would be willing to see his wife, daughter, or sister begin any preparation for the purpose of entering the profession as a practitioner of medicine.

Few students, I imagine, can be found who would fancy carrying their sweethearts or sisters with them into the nauseous dissecting room or the dead house of a hospital. But it is to these places they are compelled to go if they would become educated physicians. Mentally, I do not doubt that women are just as capable of mastering the science of Medicine as men are. That, however, it seems to me, is not the question to be decided; it is, whether or not it is expedient or best for them to enter the profession?

Will it minister to the cause of suffering humanity? Or can a practitioner of medicine fulfill her duties as wife and mother (for I contend that is and was the great object of her creation) better or as well as if she were attending to the ordinary household affairs which she has proved herself most competent to take care of since the world began? Of course, there will be difference of opinion upon these points, and I may be wrong, still I must think that woman is going beyond her sphere, when she enters the field as a general practitioner of medicine. As I have said before in regard to other pursuits, when she sets herself up as a doctor she must do so as a man, and be prepared to do battle with giants.

Since the time of Hippocrates to the present, the science of Medicine has been gradually but steadily advancing forward and upwards, conferring more benefits and useful discoveries for the good of the human race than any other or all other professions together. Persecuted and misunderstood from without and within, yet we have succeeded in erecting, by self-sacrifice of mental and bodily comforts, a temple under whose shadow all lovers and promoters of the welfare of humanity can rest. Our science embraces all other

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sciences. It is, or should be, the grand arcana of human knowledge, by means of which

> "We behold the world's creation,
> How in his cradle first he fostered was,
> And judge of nature's cunning operation."

None but the best, and the purest, and the most intelligent have any business seeking admission into its folds. And I would admonish the people to think well upon this point. When they are sick they wish to trust themselves to the care of a good physician; yet they use no effort to inform themselves as to what should constitute a doctor, and their *wise* legislators, in this State at least, acting in conformity, it is supposed, to their wishes, only have to have any bill presented to them (no matter as to its merits) in which the name of doctor occurs, and it is immediately consigned to the tomb of the Capulets.

This spirit is most unfortunate, not for the profession, but for the interest of the people themselves. They are the ones who pay for all the evils of quackery, while pecuniarily I believe the regular physician is benefitted.

But to return. We have granted that woman is capable of grasping the multifarious details of medicine. Now she enters the field as a rival to her male brother for practice. Again chivalry must give way, for she is acting the part of a man and she must stand or fall upon her own intrinsic merits as a physician. Success is the great criterion of merit in all business, and there are a great many reasons why a man will succeed better as a doctor than a woman. Aside from the mental strain, there is more physical work than pertains to any other of the learned professions. No calling requires a head so cool, or a hand so steady as ours. We must be calm, and at the same time we must show ourselves sympathetic. We must be

> "Men who suppress their feelings, but who feel
> The painful symptoms they delight to heal,
> Patient in all their trials, they sustain
> The starts of passion, the reproach of pain,
> With hearts affected, but with looks serene,
> Glad if a hope should rise from nature's strife
> To aid their skill, and save the lingering life;
> * * * * * * * *
> To the physicians of the soul and these
> Turn the distressed for safety and for peace."

When life and death hang upon a single thread, and friends and relatives with tear bedimmed eyes, are watching every expression and motion of the physician to see if they can read the fate of their loved ones, when the slightest mistake would be fatal, the great necessity for a cool brain and steady nerves can be appreciated. In the presence of the grim monster, at all times terrible, there is no time for hysteria, and a nervous spell on the part of the physician

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might be fatal to the patient. It is a well known physiological law that for near half the time, say from ten to fifteen days out of thirty, females are subject to nervous depression or excitation, in a greater or less degree, and over which they absolutely have no control, frequently unfitting them for any pursuit requiring bodily or mental toil. Though she may nerve herself to do her part when by the bedside of her own loved ones, yet it is not believed that her nervous system would be sufficient to withstand the terrible strain that she would have to undergo as a physician. The constant fight with death in all its shapes and hideousness, and come when or how it may, is always humiliating to the physician.

> "Come to the bridal chamber, death!
> Come to the mother when she feels,
> For the first time, her first-born's breath;
> Come when the blessed seals
> That close the pestilence are broke
> And crowded cities wail the stroke;
> Come in consumption's ghastly form,
> The earthquake shock, the ocean storm;
> Come when the heart beats high and warm,
> With banquet song and dance and wine;
> And thou art terrible: the tear,
> The grave, the knell, the pall, the bier,
> And all we dream, or know, or fear
> Of agonies are thine."

Scenes like these are constantly being encountered by the physician, and though his heart may be bleeding, and his eye ready to overrun with the sympathetic tear, yet he must show no excitement, lest the feeble spark may become extinct and the bridal chamber be vacant, or the mother miss the precious burden from her arms. It may be said by some that women are capable of undergoing more mental suffering than men, but I think this is a mistake, unless it be when her affections come into play, and she has to exercise great self-control on account of the love she bears some one, and then the suffering and nervous prostration comes afterward. Man with his coarser brain, and less impressible nervous system, can witness scenes with perfect coolness that would blanch the cheeks and make the hearts of most women stand still.

No woman can control her nervous system. And I care not how strong-minded or progressive she is, she is subject and governed by peculiar conditions, which do not apply to man. Hysteria is second nature to them; the best and the worst are alike subject to it, as all medical men know, and though the truth may be unpalatable, it is the truth nevertheless. Of course they cannot help themselves, for it depends upon the peculiar constitution which nature has given them. A great many people believe that hysteria is a purely imaginary affection, over which the patient should or could have control. It is a great mistake. Some of the purest and best—yes, and the most intellectual—women I have ever known have been sufferers

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from it. It is a most frequent symptom or accompaniment of other diseases. And of course it always unfits a woman for any business requiring strong concentration of mind. The married and the unmarried are alike liable to this truly protean affection, or more properly speaking, symptom. It is needless to say that the excitement and exposure of a physician's life would not only be a predisposing but an exciting cause for these attacks, and that as a matter of course at such times she would not be a safe practitioner of medicine.

Michelet says, and very truly (and he is no doctor): "Real workmen, who know that a good start is always important, often all important, also know that a job which is often interrupted does not amount to much in the end. Woman, so often interrupted by sickness, is a very bad worker. Her changeable constitution, the constant renewing which forms the basis of her existence, does not admit her to apply herself long to any one thing." Will they be acceptable as physicians? A physician's success depends in a great measure upon the confidence that he can succeed in inspiring his patients with. He or she who depends upon drugs entirely will meet with poor success. When we are sick, we wish a doctor whose very presence nerves us and acts as a salutary stimulus to our minds. This is the case with men, but more especially with females. A woman turns instinctively to man if she is in trouble; it is nature for her to do so. She trusts her physician as confidingly as she trusts her priest. He frequently is the repository of her little mental troubles (not uncommonly depending upon some physical cause), she goes to him for advice and trusts him when she would never think of trusting a female. To say that the doctor should be worthy of all this faith and confidence is not enough. He should be pure as the purest, alike above temptation and suspicion.

As I have said in another part of this address, if I know my own heart, I have no narrow prejudice against female doctors. At the same time, I venerate the name of woman. And I wish, for the good of both sexes, for the broad distinction which has always been to remain between them. Woman's strength and safety is in her womanhood, and a true man will always respect it. Her great danger is from herself. In her vain efforts to ape the ways of man, she is running the risk of demoralizing both, for when men cease to treat and respect woman as woman her moral influence will be gone, and, without her influence for the cause of religion and morality, sin would hold high carnival in the world, and all intellectual and moral advancement will be at an end. Men left to themselves, without the refining hand of woman, would soon degenerate into little less than brutes. And it is from this degradation, alike detrimental to both sexes, that I wish woman to save us. It will not do to say that we are too far advanced in civilization for anything of this sort to happen. No civilization is permanent if the moral part of humanity is not also educated and perfected. It is in this par-

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ticular field that woman's work lies. There is plenty of work for her to do, and of the kind that is elevating and useful to both sexes. How much more benefit to suffering humanity was Florence Nightingale, acting the part of a gentle and ministering angel to the sick and wounded soldiers, than she would have been had she gone to them with probe and scalpel.

Woman has her place in the sick chamber which can not be filled by man. She sheds a halo of soft light around it, and circumvents the sick room with innumerable comforts and pleasures that the more material man never thinks of until he sees them. There is an indescribable something about woman as nurse, that is as far superior to man as Heaven is to earth. What man could act the part of a good Sister of Charity? How much more congenial and beneficial to the feelings of the sick soldier is the following picture of a good sister, as she goes to the bedside of a poor wounded boy, than she would have been, had she gone as a mere doctor, to dress his wounds,

"A pale woman enters,
As wan as the lamp's waning light which concentrates
Its dull glare upon her,—with eyes dim and demure.
There all in a slumberous and shadowy glimmer,
The slumberer sees that still form float on,
And feels faintly aware that he is not alone.
She is flitting before him, she pauses, she stands
By his bedside, all silent. She lays her white hands
On the brow of the boy. A light finger is pressing
Softly, softly, the sore wounds; the hot, blood-stained dressing
Slips from them. A comforting quietude steals
Thro' the racked weary frame; and throughout he feels
The slow sense of a merciful, mild neighborhood.
Something smooths the tossed pillow. Beneath a gray hood
Of rough serge, two intense tender eyes are bent over him.
It is surely death's angel, life's last vigil keeping!
A soft voice says, sleep,
And he sleeps; he is sleeping."

In the mean time the gentle care of the good sister is changing everything around his tent, and when he wakes, half dreaming, and feeling the delicious sense of comfort that she has brought to him, he asks, "What art thou, blessed dream of a saintly and ministering spirit?

"——A whisper serene,
Slid softer than silence; the sœur seraphim,
A poor sister of charity, shun to inquire
Aught farther, young soldier, * * sleep,
And he sleeps, he is sleeping.

He awakened again when the dawn was just steeping
The skies with chill splendor. And there never flitting,
Never flitting, that vision of mercy was sitting.

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Then as life itself seemed to be slowly returning to the poor wounded boy, brought back by the kind ministration of this gentle nurse, who silently has been making the rude tent comfortable, he imagines that she is an angel, but she says she is

"One
Who is not of the living, nor yet of the dead;

To thee, and to others alive yet * * *
So long as there liveth the poor gift in me
Of this ministration to them and to thee.
Dead in all things beside * * * A nun hath no nation.
Wherever man suffers, or woman may soothe,
There her land, there her kindred. * * *
And he hears, as it were, between smiling and weeping
The calm voice say—Sleep,
And he sleeps, he is sleeping."

How many of our brave boys who have so recently passed through the horrors of the battle-field, and the hospital, will have their minds carried back in grateful remembrance of the kind sisters. The picture drawn above may be a little poetical, but it shows woman's mission in part, and is a just tribute to the noble sisters, who are willing, not only to lose their nationality, but also their lives, for the good of suffering humanity. It is well for us to inquire if this great cry on the part of woman to assume man's work is not really a sign of retrogression and demoralization of the sex, or rather of society! For we find going hand in hand with the questions we have been considering to-night, other issues which are of momentous import to the human race. The marriage tie is looked upon, by most of these people who are advocating woman's rights, as a relic of barbarism, and the more refined doctrine of affinity is offered as a substitute for that sacred institution. Infant murder is considered no crime. And recent developments in some of our large Northern cities show that it has reached such an alarming extent, that it has almost sapped the foundation of good society itself. Women are the most frequent culprits, and if the profession should unfortunately be flooded with female doctors, I fear that the awful crime of infanticide would increase, for though murder is murder, committed at whatever stage of infantile life, few female doctors would probably be able to resist the appeals of a fallen sister, particularly if backed up by the cunning of a bad man.

I say that it is where these demoralizing sins prevail most, that we hear the loudest cries for woman's rights, and it is there also where men have least respect for women. Woman's great strength and safety is in the institution of marriage; and everything she does to lessen men's respect and love for her, weakens it, and makes her rights more precarious; for without the home influence which marriage brings, men will become selfish and brutal; and then away go woman's rights, for in all countries where the men are bestialized, women suffer untold wrongs, acting the part of a beast of

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burden, instead of being the light of the household. Women should be educated to the highest degree, mentally, morally, and physically, for they are responsible in a great measure for the good and bad deeds of the world.

I believe if we could have a land of pure, cultivated christian women, we would also, as a natural consequence, have one of cultivated christian gentlemen.

In such a land we would never hear of woman's rights, for both sexes would move in perfect accord.

Our whole social system at present is entirely and radically wrong. Our girls are brought up in perfect ignorance of all hygienic laws. They are not educated with the great end in view that they are to become the mothers and teachers of men, who are to rule the world. In choosing husbands no regard is paid to physical or mental health, and we frequently find that the weak and nervous female has been permitted to marry a weak-brained, rickety man. The consequence is that the world is being peopled by a race of sickly-minded, debilitated men and women. It is from the minds of these poor creatures that a great many of these fantastic notions spring. And a great many of the immoral actions of mankind arise from physical causes that ought and might be avoided. Much depends upon our profession. And we may well inquire, how much responsibility rests upon us, for many of the evils with which humanity is cursed? It is our duty to teach the people the common laws of hygiene; to inform them that mental, moral, and bodily defects can be and are transmitted from one generation to another. That only from a sound body can you expect the most perfect mental work. Above all, we must teach them that the purity and well being of the human race depends upon the kind of mothers from whom we draw our being. Let us strive to have woman elevated, educated, and purified. Let her stand forth and claim the great right of educating and training her children for usefulness in this world, and immortality in the next.

God grant that the influence of all mothers may be felt and remembered, as some of us remember ours to-night; not as stump orators or female doctors, but as our good angels, breathing the spirit of prayer to Almighty God for protection and guidance of their wayward boys. This is the kind of influence that will last,

> "Which brings back his boyhood upon it, until
> The mind's ruined crevices graciously fill
> With music and memory."

And in long years after, the little prayer taught by our mothers recur to us, frequently making us better for the sake of that mother, whom we feel sure is in Heaven. The purer and better men get, the lighter will be the load of woman. Her clamors for her rights in the halls of legislation or the profession, will never benefit her, if she gains what she is claiming.

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"Woman is not undeveloped man,
But divers; could we make her as the man
Sweet love were slain, whose dearest bond is this,
Not like to like, but like in difference;
Yet in the long years, liker must they grow;
The man be more of woman, she of man;
He gain in sweetness, and in moral light;
Nor loose the wrestling throes that throw the world;
She mental breadth nor fail in childward care;
More as the double natured poet each;
Till at the last she set herself to man
Like perfect music unto noble words;
And so these twain upon the skirts of time
Sit side by side, full summed in all their powers
Dispensing harvest, sowing the to be
Self-reverencing each, and reverencing each
Distinct in individualities;
But like each other, as those who love,
Then comes the statelier Eden back to man,
Then reign the world's great bridals chaste and calm,
Then springs the growing race of human kind;
May these things be."

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REPORT ON THE DISEASES OF AUTAUGA COUNTY.

By T. G. HOWARD, M. D., of Autaugaville.

The path of duty should be regarded as the path of pleasure, yet often, as now, its pursuit is checked by difficulty and discouragement. Having been appointed at the last meeting of the Association to report on the disease of Autauga County, and while disposed to yield obedience to its requirements, I have very little material to contribute to the general good. I cannot, however, allow this fact to deter me, since any refusal may allow a license to others to do likewise who have better opportunities to give interest and instruction to our annual meetings. My locality is an isolated one, and I will have to confine my report to personal observation alone.

During the months of January and February, 1871, but few cases were under treatment. Some cases of pneumonia, catarrhal fever and chronic chill and fever presented themselves, all of which, however, yielded to the ordinary plan of management. A case of meningitis came under my observation, which was not wholly without special interest. The subject was a child about nine months old, who ten days previous to my visit, had fallen from the door, producing some contusion of the forehead as the only mark of injury. Some hours afterwards the child became fretful, frequently placing its hand to the injured side of the head and manifested some nervous excitability. These symptoms increased until I was called to see the case. The bruise had disappeared, the pupil of the left eye was smaller than that of the injured side—both eyes slightly injected,—pulse 70 and rather oppressed, bowels constipated, although purgative medicines had been administered. Suspecting the symptoms to be the results of the fall and fearing the brain had suffered to some extent, I ordered ½ gr. calomel every third hour, with 2 gr. doses of bromide of potash at intervals of three hours during restlessness.

On my return found the child had spent a quiet night, bowels had acted well and general condition favorable; continued bromide potash.

Second day.—Found my patient worse, pulse 105, restless for past twelve hours, and during the last few was having slight convulsions

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at intervals of an hour, especially on the left side, the pupil of left eye small and insensible to light, the head was thrown back and appeared to give pain when moved. Notwithstanding the objection to blistering children so young, I ventured to apply one to the upper spine, and continued the use of potash as already mentioned. In the afternoon the blister had drawn well, the child was quiet, pulse 95, the pupil of left eye still contracted, but not so much, with occasional strabismus.

Fourth Day.—During the morning it seemed to be doing well, (nursed some little) and continued so until 8 P. M., when on being suddenly aroused was seized with a convulsion, which returned every half-hour for twenty-four hours, when death ensued.

From March the first until July we had a season of comparative health. Parotitis prevailed, and was accompanied with many instances of metastasis—the *right* testicle being almost without exception the part affected. In one case, the tendency was to the brain, which readily yielded to a full dose of calomel and blister to cervical spine. The cases of orchitis were treated with calomel, either as a purge or alterative, veratrum and aconite to allay arterial excitement, and warm fomentations locally; all yielded readily to the agencies employed.

It will be remembered that during the months of March, April and May we had an unusual quantity of rain throughout the country.

About the middle of June dry, hot weather began, continuing to the last of August. Coincident with the dry weather, a prevalence of malarial disease, from the mildest intermittent to its most pernicious types, manifested itself. In this locality we rarely have much fever before August, and it is usually restricted to an area within four or five miles of the Alabama River. But, during the season under review, the continued dry, hot weather so suddenly succeeding the continuous rains produced chill and fever in localities where they had hitherto been strangers. Some of the most pernicious forms of fever occurred in our pine lands, remote from the river or other water courses. Miasmatic diseases continued during August and September, with a gradual abatement towards the close of the latter month. Congestion was an element in more cases than usual during these months, the brain being the most susceptible organ. I saw several cases of meningitis within this period, one only terminating fatally. Believing that the miasmatic influences predominated in these cases, I ventured upon the free use of quinine, and the favorable result indicated the correctness of the view. That its use should be cautiously watched will not admit of doubt, but when meningitis occurs during our malarial periods and is accompanied by evidences of diurnal exacerbation, the propriety of its prudent use readily suggests itself, and we should not hesitate to prescribe it under proper restrictions. Morphine, too, has served a good purpose to allay restlessness. When unaccompanied with a dry tongue

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and skin there was no tendency to stupor. In one case where there was extreme restlessness and a dry, hot skin, I used the bromide potash with the chloral hydrate with very satisfactory results. If the theory held by some be true, that chloral produces its anodyne effects by diminishing the caliber of the smaller cerebral blood vessels, thus detracting from the amount of blood circulating in the brain, it would certainly prove a potent agent in the treatment of cerebral diseases. I am not prepared, however, to embrace the theory until experience is more extended and satisfactory.

The month of October presented but one case of interest—a case of hæmorrhagic fever. The subject was a young man about eighteen, whom I saw in twelve hours after the first discharge of bloody urine. I found him quiet with nothing remarkable in his condition or appearance, save an occasional discharging of urine, each becoming less and less sanguinious. Anticipating a chill within twelve to fifteen hours, I gave five grains quinine, to be repeated at intervals of two hours, also at same intervals, gave ten drops spirits turpentine. During the night gave calomel, podophylin and extract hyoscyamus one full dose. The following morning there was no paroxysm as expected, bowels were moved during the night two or three times, pulse 85, compressible and small, extremities cool, restless with frequent sighing, nausea and occasional vomiting, eyes yellow and skin of a bronze color, urine still unchanged in color. Continued turpentine with a little toddy, also one or two grains of quinine every fourth hour, applied frictions of turpentine to the spine and ordered mustard bath to the extremities. Afternoon—patient no better, pulse very feeble, 112, surface cold, vomiting a fluid of an indigo color with smaller flakes of darker color, urine very dark with sediment resembling broken clots of blood, increased sighing and much delirium, bowels quiet. Since morning ordered brandy with aromatic spirits ammonia, at usual intervals, a dose of oil at night, frictions and rubefacients.

Third day.—Pulse weaker, otherwise without change; continued treatment.

Fourth day.—Urine scanty and thick, delirious, quite restless. Gave chloroform 20 drops, laudanum 8, to be repeated every two hours. After the fourth dose was taken evidences of reaction were visible, and on the morning of the fifth day his condition was much improved, although the kidneys had not resumed their wonted functions; a few doses of fluid extract buchu were given with the desired effect, and the case progressed favorably for nearly a week; he then became extremely irritable and, although forbidding examination, I had reason to believe he suffered under tonsilitis, an eruption similar to scarlatina covered the body, and some small sores about the hands and mouth, noticeable but insignificent during his entire sickness, now assumed an angry appearance. I was unable to get him to take food or medicines, and after lingering several days he died.

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Some few cases of pleurisy, pneumonia and bronchitis constituted "our stock in trade" during November.

In December, meningitis made it appearance, confined, however, to one or two farms. With but one exception the disease was confined to negroes, and generally to children, none, however, under eight years of age. The manner of living doubtless had much to do with the disease, as it was noticeable that in every house where the disease occurred, one farm, there was near it a pen of hogs confined to fatten. Full doses of calomel and strong counter irritation had more effect than other agents in alleviating symptoms, yet they did not cure. With one exception every case died. Some, six or eight in all, within forty-eight hours after the first attack, one case within six hours. One case was relieved of the disease but died from supervention of pneumonia, while the only case that fully recovered did so after a like attack.

Since December several other cases have fallen under my care, and I have treated them successfully with blisters, calomel and morphine. I have also used chloral, but nothing very encouraging has resulted from its use.

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REPORT ON THE DISEASES OF COLBERT COUNTY.

By R. T. ABERNETHY, M. D., of Tuscumbia.

Owing to continued bad health, I have not been able to practice medicine, and consequently have nothing to report, except my own case. The symptoms heretofore given have continued with varying severity—indigestion, constipation, pain, bloody urine, &c. The urine at present has less blood in it, but is very red with the urates, sometimes cherry, sometimes dark. The redness is brightest when the *pain* in the *right parietal* region is most severe. I have suffered with several attacks of pain in both kidneys, and more or less paralysis, increased during these spells. Albumen and tube casts, variable in quantity, always present in urine. Spent a part of the spring and summer at Bailey's Springs. The water acted freely on bowels and kidneys, and I grew excessively nervous under the drain, so much so that I had a sort of convulsion, which came on while asleep. This was followed by a feeling of shuddering, which came on often but irregularly, beginning at the base of the brain. My body was cold all over and bathed in cold sweat, and my back and legs were mottled with reddish purple spots. Quinine, large drinks of gin, cupping over spine, and mustard plasters, induced a reaction and the *ice bag* over the base of the brain and spine brought about sleep and removed echymosed patches from back and legs. During convalescence from this spell I had a return of ascites. The effusion was partially expelled by cream of tartar, jalap, and podophyllin, with a large blister over abdomen, sufficiently so to enable me to ride to Ligon's Springs, which hurried off all the symptoms of dropsy and renewed both appetite and strength in the course of a month's use of the water.

During the winter, caused by exposure to a cold east wind, I had an attack of congestion of the kidneys, attended with paralysis of the lower extremities, which was relieved by cupping, liniments, and the use of valerianate of quinine, six pills (three grains) a day for three days. For the last two months have worn a seton. During the past year have worn setons in different localities along the spine,

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and found much relief from the *paralytic* symptoms by their use. Finally, I have to say that the disease of my kidneys progresses steadily in spite of all the remedies used, though I have gained strength and flesh lately from drinking porter and gin freely, and guarding well against changes of temperature.

Appended hereto, I give the report of the diseases of Tuscumbia by Dr. Wm. Desprez, F. R. C. S., London.

DR. ABERNETHY:

The past season has been remarkably healthy, in fact the healthiest that I remember since 1843, except 1858, in which year one practitioner could have done all the practice it ordinarily took four of us to do. I think the reason last year was so very healthy is, that we had so little northeasterly or easterly winds, which winds, from the location of this place, invariably come to us loaded with miasm. For the topography I would refer to the report for 1871. By reference to the table you will see there were only thirty-seven days during the year on which the wind blew from the northeast and east, and to that cause I attribute the health of this neighborhood.

Since the first of February we have had several cases of pneumonia, which were fatal, among old and debilitated persons. Such children as had it recovered without difficulty. I met with three or four cases of typhoid fever; in these I tried sulphuric acid in twenty drop doses every fourth hour, alternating it with turpentine, carbolic acid and glycerine, given every fourth hour during the intervening period. Within the last few weeks mumps have made their appearance, but attended with no casualties except in two cases—in one it attacked the testes, in the other the mammæs.

MONTH.	WET.	DRY.	N. AND N. W.	S. AND S. W.	N. E. AND E.	S. E.	W.	RANGE OF THERMOMETER	MEAN.	
March.....	11	20	6	12	0	10	3	32 to 80	61	
April.....	9	21	8	12	1	4	5	50 to 86	68	
May.....	12	19	9	10	3	6	3	51 to 92	74	
June	11	19	7	5	3	4	6	60 to 94	85	
July	8	23	5	12	4	2	8	80 to 96	89½	
August.....	3	28	3	17	4	4	3	76 to 100	93	
September.....	0	30	11	4	4	2	9	50 to 90	72	
October.....	5	26	8	10	4	5	4	40 to 86	72	
November	6	24	11	7	6	2	4	30 to 74	60	Snow 30°
December.....	2	29	8	12	3	3	5	14 to 72	42	Snow 25°
January.....	4	27	10	8	3	4	6	10 to 62	39	
February.....	7	22	9	5	2	6	7	26 to 68	61	Snow 3°

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REPORT ON THE DISEASES OF CONECUH COUNTY.

By S. S. FORBES, M. D., of Belleville.

When solicited to report upon the diseases of our county, my reply was, that the practice of medicine was at such a low ebb in this section, that I should have to rely upon my own resources. My reports show that my *prognosis* was correct; but such as I have I give.

The following article is intended for inexperienced obstetricians, and I trust they may read and profit by it:

Case 1st.—Mrs. A—— had been in labor forty-eight hours, when I was called. The attending physician told me he had been giving tincture ergot for twenty-four hours, and could get no effects from it; did not think it was good. Upon examining the patient, I found the os opened about the size of a half dollar. I said to him, the reason you get no effect from your tincture is, your patient has not arrived at the stage of labor when stimulants are admissible. I would advise a dose of morphia to quiet her, and at the same time as a relaxing agent to dilate the womb. He said he had thought of it, but was afraid to give it. I have resorted to it for the past twelve years, in similar cases, and generally with the happiest results. The morphia was given, the patient slept four hours. When she awoke, examination showed the mouth of the womb dilated, when labor commenced in earnest, and she was soon delivered.

Case 2d.—Mrs. J——, first child, had been having pains for three days. The attending M. D. had been giving uterine stimulants for thirty-six hours, as he expressed himself "to make her have it," *nolens volens*. At this stage I was called. Examination showed the os open, only the size of a twenty-five-cent piece. The patient was bled, put into a hot bath, and a dose of morphia administered. She slept eight hours, when examination showed the os opened the size of a tea-cup. In three hours more she was in full labor, the child's head distending the perineum so that its hair could be seen. At this time all pain ceased, and no stimulant could arouse the womb to action, it had become exhausted before labor commenced. The forceps were applied, when she was delivered of a dead child, weighing twelve pounds. The question is, had the case been left to nature, would not her efforts have proved successful, and instead of a dead child, might it not have been living?

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The danger of giving stimulants to produce contraction of the womb before the os is sufficiently open, is upon the principle of the camel going through the eye of a needle. The forced contraction upon the womb might lacerate it, or the pressure on the child might kill it. It exhausts or wears out the efforts of the womb before its work is really begun. Should the patient be so fortunate as to get through after all this mismanagement, and escape puerperal fever, she may thank her good constitution, and in future resolve to be her own acoucher.

Mr. E——, aged 55, full habit, preternaturally enlarged hypogastrium, had lived for the past five years in a miasmatic district, during which time he had had two or three yearly attacks of chills and fever, followed by nausea and vomiting, which were very difficult to control. Upon the third or fourth day of every attack, he would have profuse discharges from the bowels, at first of a bilious character, then he would have large serous or rice-water discharges, which completely prostrated him, almost amounting to syncope. I was called to see him the 16th of May, last. Had been taken the previous day with severe pain in region of the liver, attended with nausea and vomiting. He said he thought it was the colic, and therefore did not send for me sooner. I immediately discovered it was one of his bilious attacks. Prescribed remedies to quiet the stomach, and at the same time to act mildly on the bowels. I then left him for the night. The next morning was called to see him again; found him coughing and expectorating a substance resembling the yellow of an egg, which I considered bile. Crepitation in the lungs could be heard with every respiration, especially when coughing took place. I told Mrs. E—— that the case was very doubtful—that I thought her husband had an abscess of the liver, ulcerating into the lungs, and being expectorated therefrom. I left, promising to return in four hours, but before the expiration of that time he was dead. His death was caused by suffocation from the quantity of matter effused into the lungs.

I am forced to believe that the enlargement of the hypogastrium was caused by an enlargement of the liver—that an abscess had been forming for some time; that ulceration through the different tissues, with adhesive inflammation into the lungs, or in other words, the abscess was seeking an outlet thereby. For cases in point, see "Watson's Practice," pp. 842 and 843.

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A REPLY TO DR. OSBORN'S COMMENTS

ON A PAPER ENTITLED

MEDICAL EFFECTS AND THERAPEUTIC APPLICATIONS OF QUININE.

By A. G. MABRY, M. D., of Dallas County.

Any expression of approval coming from one so well informed in the varied literature of the profession as Dr. Osborn unquestionably is, cannot be lightly esteemed, and I am pleased to see that he has noticed my paper on the "Medicinal Effects and Therapeutic Application of Quinine," in his able and interesting report made to the Association at its last annual meeting, and fully appreciate the flattering terms in which he has alluded to my effort to place before the Association the conclusions arrived at by me after an extended experience on this important subject. That he should have discovered one point only upon which he could not persuade himself of the correctness of my views as expressed in this paper is no less surprising than it is gratifying. But as this point of difference involves a question of practical as well as theoretic importance, he will excuse me for giving some additional reasons in support of the opinions I entertain.

The views so earnestly objected to by the Doctor are expressed by me in these terms: "These considerations lead me to the conclusion that the curative effect of the medicine does not depend upon its absorption and entrance into the circulation." To my mind the most reasonable and satisfactory explanation of the question of its *modus operandi* is that which supposes the medicine, no matter through what avenue it may enter the system, to act directly upon the nerve extremities with which it is brought into contact, and that in some mysterious way the impression there made is transmitted through the nerve centres to the different tissues and organs of the body—as does strychnine by its action upon the spinal nerves produce convulsions in a few seconds of time, and as does hydro-

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cyanic acid by its deadly influence upon the nerves of organic life produce death." I did not wish to be understood as denying that quinine and other medicines ever enter the circulation, but that their curative effects do not depend upon their absorption and entrance into the circulation, but on the contrary that they cease to be curative when they are absorbed, and to the extent to which they are absorbed. To this it must be admitted that there are exceptions. Iron and all other medicines that are constituent elements of the tissues and enter directly into their composition, must, when ingested, be selected with and absorbed with the nutritive principles of the food, and, like the nutritive principles of the food, be appropriated to the repair of the natural waste of the tissues and to the growth of the organs, and might, therefore, with propriety be deemed and termed alimentary. I need no better authority than Dr. Osborn himself, nor any more conclusive evidence than his paper contains to prove that when quinine is absorbed into the circulation that its effects are no longer curative but poisonous. He says in his comments: "The reasons which actuate my belief in the absorption of quinine are as follows: in animals which have '*perished*' under its influence almost invariably the *piamater* has been found ingested, and in a few instances traces of meningitis have been noticed."

In these cases, brought forward by him in illustration of his position, it not only ceased to be remedial or curative, but proved itself to be an irritant poison, under the influence of which the "animals perished." If he should succeed in convincing me of the correctness of his views, I shall certainly, in future, prescribe quinine with much less confidence in its usefulness, and indeed with no small degree of timidity. It may be said in reply that these fatal effects only follow as results of excessive doses. But admit this, and who, I ask, in view of the varied susceptibility to its influence which is constantly met with, could determine the point of safety between curative and excessive or poisonous doses. Again he says: "Quinine shows in the spectroscope distinct blue fluorescence, and Bence Jones succeeded in detecting it by this test in numerous tissues of animals to which the medicine had been given for the purpose. He found it in the liver, the coats and lenses of the eye, the urine, blood, bile, brain, nerves, &c." And why was this fluorescence discovered; simply because quinine, not being a constituent or proximate element of the tissues, could not be converted, and the excretory organs having failed to eliminate it, was left deposited on the tissues or to float in the current of the circulation, as foreign matter to produce the irritation which the Doctor speaks of occurring in the meninges from its use. The blood is manufactured by the organs of digestion out of such nutritive material as may be presented to them; and, in general terms, is a fluid which is composed of certain definite proximate principles, fitted for and intended to replace the lost material occasioned by the natural waste, and to repair and

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sustain the tissues and organs of the body. The digestive and assimilative functions are controlled by appropriate nerve influence, and as long as this influence remains unimpaired nothing enters the circulation except that which enters into the composition of the various tissues and organs, and anything other than these must exert a deleterious influence unless duly eliminated. Not until the sentinel wearies at his post does the enemy enter the portal, but when he does effect an entrance he despoils the treasure within unless speedily ejected by the reserved forces of the economy. It is impossible for me to suppose that the blood, upon which so much depends in sustaining the well-being of the system, is so constantly exposed to such liability to contamination by the absorption and entrance into it of all the various and abundant medicinal and other substances so freely introduced into the alimentary canal. The supposition conveys the idea irresistibly to my mind of an impure stream, totally unfit for the purposes for which nature designed it; nor can I suppose that its purity depends alone upon the uncertainty of a timely elimination; is it probable that nature has contented itself to risk such an important matter to a contingency often of much uncertainty.

The action of strychnia and hydrocyanic acid referred to by me to illustrate my idea of the *modus operandi* of quinine, it seems to me might be sufficient to illustrate the whole subject in question, but, if further illustration be deemed necessary, it would be easy to point out many facts well known to every practitioner to sustain the views I entertain. The accidents which usually result from the ingestion of strychnia are almost always produced by the alkaloid itself, the absorption of which must depend upon the presence in the stomach of some fluid capable of effecting its solution. This is too uncertain and would require too much time to enable us to account for the uniform toxic results which follow the administration in large doses of this potent agent, or of its physiological manifestations when given more moderately.

I admit that there would be much more likelihood of the soluble sulphate being absorbed. But its instantaneous action is an effectual bar to the supposition of its action being dependent upon its absorption. When felled to the floor by the inhalation of hydrocyanic acid, the Doctor supposes that the acid was absorbed and in the inappreciable space of time performed the entire round of the circulation; but a far more reasonable explanation, it seems to me, is afforded by the supposition that the poison made its peculiar impression upon the nerve extremities with which it came into contact, and through the nerve centres produced the overwhelming effect which he experienced.

The "taste which was so vividly impressed upon his tongue," is to my mind by no means convincing proof that the acid had been absorbed by the lungs, had been returned to the heart, and thence to all the different organs of the body. It seems to me not impro-

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bable that when the inhalation occurred that some of the fumes reached the tongue, impressing the gustatory nerves, as all other substances do in the production of taste.

I suppose it more than probable that if the Doctor were called to prescribe for a patient suffering with the intense pain of neuralgia, that he would administer (hypodermically) one-fourth of a grain of morphia. Would he explain the almost instantaneous relief obtained from his judicious prescription by supposing that no matter how remote the seat of pain from the point of introduction, that the medicine had been absorbed, had made the entire circuit of the circulation, and without loss in quantity had reached the affected nerve; or that when he introduces hypodermically one forty-eighth of a grain of atropia, that it, too, is absorbed and in like manner conveyed to the iris, and, by its immediate contact with the nerves which control its movements, cause the pupils to dilate; or that when so introduced, in this minute quantity, that immediate contact with the secretory glands of the pharynx and mouth are essential to the production of the characteristic dryness which is well known to result from the arrest of the secretory action of these glands as one of the effects of this medicine. To make such an explanation plausible we must admit, either that this very minute quantity of matter here supposed to be used is distributed to every part of the body and in due proportion is expended upon the affected part, or by a peculiar elective affinity rushes to the point where its presence is desired without being detained elsewhere on its route, or diminished in quantity.

These hypothesis, instead of offering a plausible explanation of the effects uniformly resulting from this mode of the administration of these remedies, in my judgment, amount to absurdities. I am aware of the fact that Professor Bartholow, in his recent able and instructive work on the hypodermic application of medicines, takes the position that medicines so administered are absorbed, and in this way explains the effects produced. But he at the same time cautions the operator against the penetration of a vein; saying that serious consequences had arisen from that cause. But if it is absorbed, and yet does not enter directly into a vein, how does absorption take place? obviously it must be effected either by the veinous radicals, or by the limphatics, and in either case the medicine absorbed must join the venous current, be swept along with it to the heart, thence to the lungs, return again to the heart to be distributed with the arterial blood to all parts of the body; to find its way into the minute extremities of each and every arteriole. And why is there danger in the one case and not in the other, since the ultimate destination of the medicine is the same in both? Neither is the case altered, whether the absorption is effected through the venous radicals and lacteals of the alimentary canal, or of such absorbant vessels as are found at the point of injection. If there is danger in the one, why may not danger be anticipated in the other?

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Dr. Osborn says: "Now, the ordinary phenomena of morbid associations in malarial diseases consists in a derangement of the function of innervation." * * * Here it is plainly asserted that the primary morbid impression of malarial poison is upon the nervous system. This, it seems to me, is indisputable, and to my mind it is quite as certain that the counteracting effect, or curative influence of quinine is exerted through the nervous system. This is admitted by the Doctor in the following 'proposition' "As strychnia is to the cerebro-spinal, so is quinia to the organic nervous system. The effects or both agents are spent primarily as stimulants upon the system of nerves for which they have respective affinities. To accomplish this end it is, in my opinion, essentially necessary that they should enter into and circulate with the blood." And why is it necessary that it should enter into and circulate with the blood?

He agrees with me in opinion that quinine has no anti-zymotic or anti-septic influence upon the blood, and the inference is clear that he does not believe that the phenomena of malarious diseases are the result of zymotic or septic effects produced by malaria upon the blood, and yet he speaks of "blood troubles" as being present in these diseases. When he speaks of blood troubles in this connection, I am sure the Doctor does not wish to be understood as meaning that the development of malarial diseases depend upon changed conditions of the blood; if he does, I must certainly take issue with him on that point. I am quite sure that intermitting fever is generally fully established before any alteration whatever takes place in the blood, and that when these changes do occur, they, as well as the visceral enlargements, are the consequences of the primary morbid impression, which are not by any means essential to the establishment of the disease. And it is not uncommon for the recurrence of the paroxysms to be arrested before these changes in the blood and viscera when they are present, are removed. He says: "Quinine pursues the poison through the intricate labyrinths of the capillaries, and eradicates the foot-prints of the destroyer by restoring the vital energy of the vaso-motor nerve system." And how is this accomplished; is it meant that the poison reaches every particle of nerve matter in its passage through the intricate labyrinths of the capillaries, and that this is essential to the establishment of disease. It seems to me to be impossible, for the poison thus to distribute itself, and it also seems to me to be quite as improbable that quinine should in this way pursue the poison into the intricate labyrinths of the capillaries, and that in the accomplishment of its curative effects, a particle of the medicine must or does come into contact with each and every particle of nerve matter. On the contrary, I believe that no matter through what avenue the medicine may enter the system, it acts upon the nerve extremities with which it is brought into contact, and in some mysterious way, the impression there made is transmitted through the nerve centres to the

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different parts of the body. This, as I understand it, is "reflex action;" a principle, the existence of which is very generally, if not universally, admitted.

It is true that we know nothing of this principle, and can only form our ideas of its nature from the effects which we witness. But the same may be said of the principle of gravitation, of cohesive attraction and chemical affinity.

We are convinced of the existence of these natural principles from the effects which we observe, and just so it is with "reflex action." I contend that poisons may produce death by their overpowering influence upon the nervous system, or disease by their more moderate action without entering the circulation at all, and I do admit that they do enter the circulation, and are with the blood carried to the different tissues of the body, and that their baleful influence is continued until elimination is effected. But I also contend that the primary impression made by medicines is local upon the nerve extremities with which they happen to come in contact, and that the general or curative effect is extended by "reflex action," to the distant and different parts of the body. I also admit that medicines may be absorbed and enter the circulation after the integrity of the nerves have been weakened or impaired, and be conveyed with the blood to the different tissues, but when they are absorbed they become poisons as is well illustrated by the effects of quinine, as instanced by Dr. Osborn himself. How otherwise can its fatal effects be explained, except upon this supposition. If it is necessary for quinine to be absorbed, and to follow the malarial poison into the capillaries, how is the action of the cold plunge bath, the cold affusion, and strong mental and moral emotions in arresting (often permanently) the recurrence of paroxysms of intermitting fever to be explained? Certainly there is nothing in these instances to be absorbed, nothing to follow the poison into the capillaries, and there to erase its "foot-prints." This result is effected, too, notwithstanding the enlargement of the spleen, and the altered condition of the blood which constantly attend protracted cases of intermitting fever.

It may be doubted whether malarial poison has an abiding place in the capillaries or elsewhere in the system, as the Doctor seems to suppose. This poison is never developed in the cold weather of winter, nor does it maintain an active existence in the atmosphere in cold weather. This is proven by the well known fact that persons may, and often do, remove from non-malarial regions into the most intensely malarial districts, and there remain during the whole of the cold season without incurring the slightest risk of becoming infected, while those who continue to reside in malarious localities in hot weather, are always liable to have attacks of intermitting fever, and although the paroxysms may be arrested for a time by appropriate treatment, yet they are apt to recur, because the individual is liable to fresh invasions as long as the exposure continues.

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It is true, that the paroxysms, after being established, often return with as much regularity in cold weather as they do in warm weather, but this does not, to my satisfaction, establish the correctness of the views of those who entertain the opinion that the poison remains in the system. The effects of the paroxysms are too often apparent, but I believe the poison itself has never been detected in the blood or in any of the tissues by the spectroscope, or by any other mode of investigation, as was quinine in the instances referred to by Dr. Osborn. I cannot conceive it possible that an individual filled to repletion with malarious poison can, for one day, for two days, for seven days, for fourteen days, for twenty-one days, or twenty-eight days, feel well; so much so that perhaps he forgets the impending danger. It seems to me that it would constantly manifest itself in such a way as to keep the sufferer reminded of its presence.

The more plausible theory, it seems to me, is that which attributes the phenomena of intermitting fever to perverted nervous action, which once established, may continue indefinitely and independently of the original cause, until something is interposed to restore a healthy course of action to the nervous system, and that the malarious poison, no matter through what avenue it may enter the system, like quinine acts upon the nerve extremities, with which it comes into contact, and the impression there made is in some mysterious way conveyed through the nerve centres to the various tissues and organs of the body.

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REPORT ON THE OBSTETRICS OF ELMORE COUNTY

By E. MASON, M. D., of Wetumpka, Ala.

To the practice of each branch of medical science is attached its peculiar trials, difficulties and responsibilities; but it must be conceded that the life of the accoucheur is attended by greater anxieties and more delicate duties than that of the physician or surgeon. It is true that each has to deal with human life—that

"Mystery,
Beyond the surgeon's ken, the sage's thought"—

but, to my mind, there is no earthly duty so sacred, no position so trying to the medical man, as that which calls him to that chamber "where mercy and judgment meet, and where the groan of agony is so often mingled with the shout of joy." Each revolving year brings us to a more serious contemplation of these duties and responsibilities, and remind us that, however limited may be our field of observation, we should at least contribute our mite to the store of medical experience, by which those who follow after us may be benefited. Although satisfied that we cannot leave behind us monuments of great skill and originality, as we pass down life's rugged path, we should nevertheless strive to leave some foot-prints on the sands of time—

"Foot-prints that perhaps another,
Sailing o'er life's solemn main,
A forlorn and shipwrecked brother,
Seeing, shall take heart again."

Under a sense of such an obligation as we have thus briefly but imperfectly sketched, we submit the following record of one hundred and forty-six cases of obstetric practice, trusting that it may not be devoid of interest to my professional brethren. It is necessary to state that this record has been restricted to *white* patients; because colored women are generally attended by midwives, and physicians are seldom called on, except in difficult cases.

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Of these one hundred and forty-six births, sixty-seven were males and seventy-nine females. These were distributed throughout the months of the year, as follows:—January, nineteen; February, eleven; March, twelve; April, fourteen; May, seven; June, two; July, nine; August, twenty-one; September, thirteen; October, sixteen; November, eleven, and December, eleven.

The average weight of the new-born child I have found to be about seven and a half pounds—the largest weighing fourteen pounds, and the smallest, at full term, two and a half pounds. A majority of these patients were delivered on "the back," and the remainder on "the left side"; "the back" is generally preferred here by the patients. These labors were all *first vertex* presentations, without variations or complications, worthy of notice, except the following, which we shall briefly mention:

Case XV.—Premature labor at eight months; child very feeble; lived twelve hours. This patient was suffering with malignant remittent fever, and when labor came on she was considered in a hopeless collapse. Her disease had been attended with uncontrollable nausea and vomiting, to which the accident was attributed. She was unconscious during the labor, but she reacted under active internal and external stimulation. I think the most potent remedy used in her case was good brandy, given in teaspoonful doses, repeated as often as every fifteen minutes. She was never under the influence of quinine, until she was delivered.

Case XVI.—Premature labor at seven months; child still-born; cause of accident, excessive nausea and vomiting during an attack of malignant intermittent fever. She had retained but a very small quantity of quinine before the accident; but immediately afterwards the vomiting ceased, and she was able to take enough to arrest the next paroxysm.

Case XVIII.—Breach presentation first position—that is, the child's back to the left acetabulum. Waters discharged early and the labor very tedious. The last stage of labor was attended with several puerperal spasms, which were relieved by bleeding and free doses of morphine. Mother and child both did well.

Case XXXV.—Premature labor at six months; child still-born—had been dead so long that it was putrid. Cause, continued attacks of intermittent fever, attended with excessive vomiting. Had taken no quinine for several weeks previous to the accident. Labor pains commenced during the chill. Had a mild attack of metritis, commencing on the third day after delivery.

Case XLVIII.—Premature labor at the sixth month; child still-born; cause, varioloid. The child had well-marked pustules on its face and thorax, which were perfectly characteristic of variola.

Case XLIX.—In this case the patient had a very narrow pelvis, in its antero-posterior diameter—indeed, craniotomy had been performed at two previous labors—and her labor was exceedingly tedious. The waters were discharged at the very commencement of

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labor, thirty hours before delivery. Although she had been under the relaxing influence of chloroform for several hours, she had several slight spasms. The child was comparatively still-born, for life was so far suspended that there was no pulsation of the cord, nor even of the heart. It was restored after long and continued efforts at artificial respiration. In addition to Marshal Hall's plan of resuscitation, the placenta was immediately delivered and immersed in hot water, and stimulating applications made to the spine and chest. The placenta was not detached from the child until life was fully restored.

Case LXI.—Premature labor at seven months; cause unknown. Child weighed five pounds and did well. This patient had been the subject of hemiplegia for several years, and had an extremely nervous, irritable temperament.

Case LXV.—Breach presentation, first position. Membranes ruptured three hours before any pain whatever was felt. Duration of labor six hours, and the child seemed perfectly dead when born, but was restored after the manner heretofore described.

Case LXVII.—Primipara, aged thirty-six years; short and stout built; rather plethoric appearance. Her general condition was very good; her bowels had been kept regular, her diet had been light, and she had taken a great deal of out-door exercise. Her pains commenced at six o'clock, P. M., and at seven o'clock, P. M., the os uteri was dilated to the size of a silver dollar, soft and dilatable. First position of the vertex, head large and firm. The excavation of the patient's pelvis seemed rather contracted in all its diameters, yet I believed she would be delivered without difficulty. Labor progressed well until ten o'clock, P. M., when, without premonition, she was attacked with a most violent puerperal spasm. I put her immediately under the influence of chloroform, and when the spasm was controlled bled her, and gave a full dose of morphine. In a half hour a consulting friend and my instruments arrived. During this time she had two spasms, equally severe as the first, which were controlled by chloroform. At eleven o'clock, one hour from the accession of the convulsions, I delivered her with forceps of a child weighing ten pounds, which I was astonished to find still-born, and life could not be restored, after the most vigorous efforts. She now breathed quietly and sweetly for fifteen minutes, but then followed one of the most terrible paroxysms I ever saw—indeed it was perfectly awful to behold. I had often realized the fact that eclampsia was one of the most fearful disorders to which the parturient female is subject, but it had never been my fortune, before, to see a fatal case. The impressiveness of the scene was, perhaps, more painfully trying to me, because the patient was a very dear friend. Consciousness did not return after the first spasm, and after the fourth she sank into a comatose condition, with stertorous breathing, and died at three o'clock, A. M., nine hours from the

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commencement of labor. Her symptoms indicated compression of the brain, caused by the rupture of a small cerebral vessel.

Case LXXIII.—Saw this case in consultation with a medical friend. Primipara. When we arrived, she was in collapse from malignant chill and was entirely unconscious. This was the second paroxysm and she had taken about twelve grains of quinine, but her stomach being very irritable, it was doubtful whether any of it had been retained. She was about seven months advanced in pregnancy, and her friends informed us that she had given evidence of abdominal pains for several hours. Examination by the touch proved that she was far advanced in labor, and in a very short time I delivered her of a still-born infant. She did not react under the most active internal and external treatment, but died in about ten hours after she was delivered.

Case LXXXVII.—Premature labor at eight months. Cause—continued attacks of intermittent fever, for which the patient had refused to take quinine, as it produced unpleasant head symptoms. Labor commenced during a chill, and could not be arrested—child was very feeble, delicate looking, and lived six months in an almost comotose state—so much did it sleep—and died in convulsions.

Case XCVI.—This patient was fleshy, plethoric habit—weighed about two hundred pounds. Four years previous to this, she had an attack of apoplexy, followed by partial hemiplegia. During the night she had *colic*, which she attributed to some oysters eaten at supper. She vomited freely, and took a dose of morphine, which relieved her.

The next morning her mother gave her a dose of castor oil, as her bowels were constipated. She took the oil in bed, and soon afterwards, while leaning over the edge of the bed to vomit, she threw herself violently back, and for some time was in a terrible convulsion. From this moment she was entirely insensible, and never recovered consciousness. A medical friend and myself reached her about the same time, one hour after the commencement of the attack. We found her lying on her back, face flushed and swollen, breathing stertorous, with puffing of the cheeks during expiration—pulse full and slow. We bled her freely, opened her bowels with stimulating enemas, applied mustard plasters to her spine and extremities, and cold constantly to her head.

She was near the full term of pregnancy, and although there had been no symptoms of labor, yet it was agreed, in consultation, that I should examine the condition of the uterus. The os was slightly open, and easily dilated. With a hope of relieving the brain, we determined to rupture the membranes, turn and deliver. This was accomplished without difficulty, and a healthy, living child was born. The placenta was easily removed, and by the aid of external compression, the womb gradually contracted. Our hopes were entirely vain, for she never manifested the slightest consciousness; but died just six hours after the apoplectic stroke.

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This case painfully illustrates the importance—the necessity of pregnant women, putting their systems in proper condition, for the trying ordeal which awaits them. This patient, most unfortunately, had past to the last days of pregnancy, with a full habit, constipated bowels, frequent head-ache, her digestion bad, and even with these warning voices, she led a very sedentary life.

Case CII.—Primipara—verydelicate body—small pelvis, eclampsia came on suddenly, when the head was pressing on the perineum—arrested by chloroform, followed by morphine. Forceps applied immediately, and labor terminated after the second spasm. Mother and child both did well.

The cases of premature labor in this record do not, in my opinion, at all tend to show that quinine has any specific effect on the gravid uterus. On the contrary, in each case, the malignancy of the disease was sufficient to produce the accident, indeed, in these cases at least, there seems to have been a want of quinine, rather than an excessive use of it. I am free to acknowledge that in some nervous temperaments, the use of quinine may produce irritation sufficient in the nerves of the uterus to cause it to expel its contents, but I think that such a result may be prevented in most cases by a proper combination of some anodyne; I prefer the acetate of morphia to any other. I have practiced in a well defined malarial district for twenty-four years, and have seen quinine administered in every stage of pregnancy, in quantities from ten to sixty grains during twenty-four hours, and I am satisfied that I never saw a case of abortion nor premature labor which was clearly the effect of quinine.

The obstetric forceps.—This instrument I regard as one of the most important connected with the outfit of the physician who expects to practice midwifery, and I think we should never go to a case of labor without having it within our reach. But I must confess that I am, perhaps, a little old-fashioned, and have not lost all respect for the aphorism "that meddlesome midwifery is dangerous," and am rather of the opinion that there is some danger of the forceps becoming too fashionable. I cannot enter into the doctrine of the days of lightning speed, and believe that labor ought to be terminated at a given period under all circumstances. Some medical writers maintain that a resort to the forceps is necessary to cut short the sufferings of the mother, and to lessen the danger of protracted labor to the life of the infant; and some even contend that it is justifiable to use the forceps to relieve the anxiety of the patient and her friends, and also to save the time of the physician. I adhere to the rule taught by Churchill, who was an advocate and defender of the forceps, "that it is to be applied in no case till we are perfectly satisfied that the obstacle cannot be overcome by the natural powers with safety to the mother and child."

In regard to the use of anæsthesia in obstetric practice, my experience is altogether favorable. It is a boon as priceless as it is wonderful to suffering humanity, and while it robs the surgeon's

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knife of its terrors, it brings immunity from pain to the parturient female. Although it was difficult for me to divest myself of a prejudice inculcated by the teaching of that great and good man, the late Charles D. Meigs, in the earlier part of my professional life. Yet for many years I have used Anæsthesia freely. I have a very decided preference for chloroform, because I think it produces less excitement, acts more promptly and decidedly than any other that I have ever used. I have only met with one case in which its use was followed by dangerous symptoms. In this case labor was entirely arrested, and alarming prostration came on, almost with the first inhalation. Brandy was given freely, and labor commenced in about an hour, and terminated favorably. I have several times seen the interval between the pains lengthened, but this served to hasten, rather than retard, labor, for the pains were rendered more forcible and effective. I rarely commence the use of chloroform until dilitation of the os uteri is complete, and if the patient is at all debilitated, I give a small quantity of good brandy or whiskey before commencing, and if the labor is protracted, repeat occasionally.

I have tried hydrate of chloral, and given morphia hypodermically, but have been disappointed in both.

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REPORT ON THE DISEASES OF GREENE COUNTY.

MALARIA AND MIASMATIC CACHEXIA.

By H. B. ROBINSON, M. D., of Forkland, now of Birmingham.

"I shall have to allude to inexplicable phenomena, to vast spaces still unfilled by solid facts, to spots unknown to observation, and to regions lighted only by the dim and treacherous ray of speculation."—Dr. Parkes.

What is malaria? its origin and effects on man?

Malaria is a material mephitic gas, evolved from decaying and decomposed vegetable matter, and is inimical to animal life, and especially to that of man. It pervades the entire earth's surface, where decomposition of vegetable matter takes place. Hence it must exist in all latitudes south of the frigid zones, where the temperature of the atmosphere is sufficiently above the freezing point to admit of vegetable decomposition, and there is moisture sufficient therewith connected to facilitate the process. It is more abundant where its sources are greatest. Hence in southern latitudes, where there is luxuriant vegetation, and heat and moisture abound, we see the effects of malaria in its worst form. It is only during continuous frosts and freezing weather in this latitude that the generation of this poison is suspended. Alternations of high temperature and frosts, during winter, are frequent sources of the evolution of malaria; and its effects at these times are often manifested in primary attacks of intermittent and remittent fevers. Malaria is a ponderable gas, having a specific gravity similar to that of the atmosphere in which it is suspended, and with which it moves in all directions with facility; but when the atmosphere is heavy it ascends above the ordinary habitation of man, but returns to the earth again when the atmosphere assumes its former specific

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gravity, to begin its destruction on man again—silently but surely.

There are portions of the earth where so small a quantity of this noxious gas is generated that its pernicious effects are rarely, if ever, manifested. In these localities man has done much toward removing the sources of malaria and rendering the atmosphere salubrious by judicious ditching and scientific farming. A large portion of Europe, which two or three centuries ago was very unhealthy and insalubrious, is now almost entirely exempt from those diseases which are peculiar to malarial countries. In those countries, no vegetable matter is suffered to remain in the soil to decompose; it is either burned or consumed by animals as food, and passes therefrom as *excreta*, which is rendered innoxious by acid or alkali, and returned to the soil as fertilizers.

England has a bad climate, and at one time was very unhealthy and suffered from the effects of malaria, but can now, from her wise sanitary regulations, boast of having the lowest mortuary reports extant—nay, more, can boast of her great mental and physical developments, of which she has not a peer. But these countries, notwithstanding their wholesome sanitary regulations, are not wholly exempt from the effects of malaria, for now and then we see reports of cases of intermittent fever in the cities of London, Berlin and Vienna.

There are portions of our own country in which malarious diseases are much less prevalent than formerly, attributable to the same cause; and there are other portions, although in the virgin state, where man has done nothing to render it healthy, equally free from the pernicious poison, owing to the dryness of the soil and the cool, invigorating atmosphere, whereby pure oxygen is respired. The mountains of Virginia, North Carolina, Alabama, Vermont and New Hampshire, and portions of Minnesota, are particularly free from malarious diseases, to be accounted for in the same way, although two of the essential elements of the production of malaria abound there, viz: vegetation of the rankest kind and solar heat, yet it is a rare occurrence to see a malarial attack there. Although the same amount of rain may fall in these localities, owing to the great altitude thereof, unevenness of the surface of the country, and the rocky, porous nature of the substratum of the earth, moisture is not retained on the surface sufficiently long to promote decomposition. Hence malaria is not generated in sufficient quantities to affect man perceptibly, unless it should be an extraordinary rainy summer, with considerable intervals of great heat and dryness alternating.

California and Western Texas are remarkable for salubrity of climate and healthfulness, yet there is the greatest luxuriance of vegetation and intensest heat for many months during the year. But, owing to the great drouths that annually occur in those countries, the surface of the earth becomes destitute of water, for many feet, and instead of vegetation decaying it is cured, or cooked as it

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were, by the intense solar heat. It is a significant fact that the table lands of Mexico are strangers to the malarial affections, notwithstanding the people there sleep in the open air, on the tops of houses. This exemption is attributable principally to the same cause, but especially to the immense altitude of the country and uniformity of the climate.

Malaria is destroyed or rendered inert by rain, probably by uniting with some element of the clouds by which ozone is formed, or it may combine with the electricity of the atmosphere during rain; but it is more probable that it contributes, in some way, to the formation of ammonia. We will advert to this hypothesis when we come to speak of the action of malaria. It is transportable in the winds, and wholly absent from the atmosphere of the sea, owing to the absence of one of its formative materials—vegetable matter. I do not concur with those who maintain that the piny woods of the Gulf and Atlantic coasts are healthy. The sallow complexions, lean, swarthy muscles, and indisposition of the citizens thereof to mental and physical exertion, speak plainer than words of the existence of malaria there. I believe I hazard nothing in speaking in the language of my learned preceptor, Dr. T. C. Osborn, in regard to these people: "They are, however, being gradually undermined by the poison, and sooner or later will succumb to its deadly influence."

Thus, then, I believe malaria is a mephitic gas generated by the decomposition of vegetable matter, and that solar heat and moisture are indispensably necessary to effect this decomposition. That it is particularly generated in this latitude at all seasons of the year, when the temperature of the atmosphere is above the freezing point, and that it is consequently never absent from the atmosphere, except during rain or on the sea. But, that it is materially affected as to quantity by location and temperature; that when evolved it continues to float in the air, either near the surface of the earth or high above it; that the ascension and lowering are dependent on the rarity or heaviness of the atmosphere; and that it is only destroyed by rain or organized beings, on whom it acts as a poison, shortening the life of all, but particularly that of man.

I believe malaria is the bane of all men south of the frigid zone, affecting some more, some less, according to their susceptibility. I believe but for malaria man would be capable of enduring a far greater degree of physical exertion than he now is, and that we would be able to master the most abstruse and difficult sciences with ease and facility.

THE ACTION OF MALARIA.

Malaria enters the system by reason of atmospheric pressure, through every accessible avenue. Its first effect is directly on nerve matter, brain, spinal marrow and sympathetic ganglia. But the

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first appreciable effect is manifested on the sympathetic ganglia. I need not say that in order to reach the nerve matter it must enter the blood, and thence by reason of some special attraction, or affinity, it attacks the nerve matter, depressing or restraining the nerves from due performance of their functions, as is manifested in all those phenomena known to us as nervous. Although the primary effect of malaria is on the nerves, it does not act exclusively so, as evinced in malarial dyscrasiæ, whereby functional and organic disturbances of the spleen, liver, kidneys, skin and muscles of animal life are often manifested. In the first place, then, malaria attacks the peripheral efferent sympathetic nerves, whereby anæsthesia of the muscles of the arteries and capillaries is produced. The result of this anæsthesia is dilatation of the capillaries, whence ensues stasis or recoiling of the peripheral current of the red discs, while the inner or central current moves on with greater rapidity. Although there is a seeming increase in the velocity of the circulation, there is, nevertheless, less blood passing through the capillaries, and consequently less blood reaches the heart. There must therefore necessarily, from this fact, be an inordinate quantity of carbonaceous blood in the capillaries, which should reach the lungs for oxygenation, in order that a healthful state of the organism may be maintained, and whereby a perfect equilibrium of the circulation may result. Now, it is a reasonable supposition from these premises that there is an endless antagonism going on between nutrition and malaria. Such I assert to be the case. The one adds new material to supply the place of that which has been rendered useless to the system morphologically, while malaria hinders or opposes the nutritive process and metamorphosis of tissue, thereby necessitating the aid of and interference of other processes and the hyperexcitation of those organs whose province it is rather to make blood than to remove from the blood matters which ought otherwise to be metamorphosed and removed as excrementitious matters. So long then as nutrition of the organism is maintained, and a perfect state of integrity otherwise preserved in the organs, malaria passes out of the system as fast as it enters, along with effete matters thereof, and is thus far comparatively harmless. But when it accumulates in the system faster than it can be eliminated, in the way above mentioned, it then becomes an absolute and perceptible poison. It is now that nutrition is imperfectly performed. No tissue or organ assimilates its wonted nutritive matter. Hence all the secretions and excretions are deranged. The secretion of the liver is either redundant, diminished, or altered in quality. The same may be said of the kidneys and the skin. The spleen is oftener implicated in malarial diseases than any other organ, and is invariably disturbed in function, and very often organically diseased. It is now that we come to speak of malarial poisoning, as it presents itself to our senses as a poison. Heretofore, although we breathe it at every inspiration, its effects are so insidious and so mild that we do not heed it. No man's feel-

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ings exactly come up to his idea of a well man, nevertheless he feels too well to complain. But for malaria man, mentally and physically, would exceed by far the maximum of his present standard in these capacities.

Now, the system becomes surcharged with the poison. There is langour, muscular weariness, disposition to drowsiness, and disinclination to mental and physical exertion. The brain is affected by the poison, and at the same time the efferent peripheral sympathetic nerves are affected, thereby producing anæsthesia of the muscles of the small arteries and capillaries, giving rise thereby to stasis or hyperæmia of the blood in these vessels.

What may be expected from this state of things? Why, that a less quantity of blood reaches the pulmonary capillaries than is wont to do, consequently there is soon an accumulation of blood non-oxygenated in the system, rendered thereby incapable of completely subserving the system as nature intended it to do.

The systole of the heart acts with as much or more energy than in health, under the stimulating effect of the superabundance of carbon in the blood, but the diastolic action is feeble. The right ventricle drives its contents to the lungs, but finds a barrier there to its forward movement in the dilated capillaries, and the left finds the same barrier in the systemic circulation. This is congestion, the cold stage of malarial poisoning; in other words, a chill. While the efferent or motor nerves are so profoundly depressed in the discharge of their functions, the afferent or sensory nerves are exalted in their functions. I do not remember ever to have seen a case of malarial poisoning in which there was not more or less exaltation of sensation, unless in cases where the brain was overwhelmed by congestion, in which the functions of sensation and motion were both suspended. The application of a mustard cataplasm produces the sensation of cold, and a warm foot bath excites rigors. In some cases of meningitis the patient cannot be touched without producing pain, so sensitive is the skin.

What is this cold stage of malarial poisoning, and whence does it proceed? Does the person really become colder than the natural temperature of man? Is he colder than the surrounding atmosphere, or is it the manifestation of exalted nervous action? The system certainly does not in ordinary attacks lose any of its caloric; the thermometer applied to the body indicates no such lowering of temperature, unless the patient should be losing some of the elements of the blood by purgation, inordinate perspiration, or cutaneous exhalation, or hemorrhage, as is witnessed sometimes in pernicious fever. Hence it is my opinion that the sympathetic sensory or afferent peripheral nerves, which are contiguous to the motor or efferent nerves around the small arteries and capillaries, are exalted in their functions, giving rise to the cold stage of malarial poisoning, while the motor or efferent nerves are paralyzed.

Thus far, then, the action of malaria is exclusively on nerve

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matter. Nervous power is inadequate to establish reaction, for if it had the power to so do under its depressed condition, it certainly would have the power to resist the action of the poison altogether, and the occurrence of the cold stage thereby would be prevented.

Nervous energy or force is insufficient to resist the action of malaria in every and all cases; but it is indeed wonderful how much power of resistance it has, considering that it is incessantly in contact with the poison—sometimes less and at others more, but almost always more or less. The poison acts primarily and exclusively on nerve matter, but when it accumulates in overwhelming quantities in the blood the nervous system yields to its poisonous influence. Then there is paralysis of the peripheral sympathetic motor nerves; and at the same time there is exaltation of function of the sensory nerves of the same system, resulting in the cold stage of malarial poisoning, as above described.

The respiratory process is so much under the influence and mandates of the sympathetic nervous apparatus, that, if animal heat was alone and wholly dependent on the function of the lung, and that animal heat was capable of preventing the occurrence of the cold stage, it (respiration) would be inadequate to establish reaction. Again, if the cold stage was the result of imperfect respiration, or oxygenation of the blood, no case would ever react. But if respira tion enjoyed this function, the cold stage would never occur. The longer the cold stage continues the greater will be the quantity of carbon in the blood, and the less the quantity of oxygen; hence the inefficiency of the respiration to establish reaction. The vitalizing capacity of the respiration is not injured in the cold stage of malarial poisoning, merely restrained in function. Not so with the nervous system, and especially the sympathetic.

The sympathetic nerves suffer in capacity. The afferent are overworked, while the efferent are depressed, and both sets suffer by reason of insufficient nutrition. Hence reaction should be established as speedily as possible.

I will digress from the plan of this paper so far as to say that of all the drugs of my knowledge, none are comparable to opium in bringing about reaction. If there is congestion of the brain, or the blood gives evidence of being poisoned by carbon, of course no one would think of administering opium, or, if at all, would do so with circumspection. But these are the exception, and not the rule. Opium acts on the peripheral nerves, or its action is manifest on these nerves, whereby the sensation of cold is lessened; the agitated body is quieted, and sleep is induced, and the patient is every way rendered more comfortable. But the great efficient agent in bringing about reaction, without which reaction would never occur, is the superabundant accumulation of carbon contained in the non-oxygenated corpuscles of the blood, acting as a stimulus on the heart with sufficient energy to propel the blood through the capillaries,

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whereby stosis or hyperæmia of these vessels is overcome; and whereby the carbonized blood is exposed to the atmospheric air in the lungs, and is oxygenated; and sooner or later equilibrium is attained in the circulation. As the impulse of the heart begins to grow stronger, the hyperæmia of the capillaries begin gradually to be removed, the morphological process therein will again begin, whereby an additional source of heat obtains. While yet this stimulus is acting, and the irritability of the heart still in a state of preternatural excitement, and the capillaries resuming their functions as generators of heat, through the process of metamorphosis of tissue, the respiration is accelerated. Consequently, an abundant degree of heat is attained thereby, and continues until the blood discs are all oxygenated, and the morphological process in the capillaries is restored to its original capacity, and the nervous system returns to its normal condition, and rendered capable of performing its functions in the animal economy. Now when the abnormal phenomena occur in the system, the excitement therein goes beyond the ordinary temperature of the body, giving rise to fever. After a continuance of the fever for a longer or shorter time, the circulation begins to decline in frequency; the respiration becoming at the same time less hurried and less labored; defervescence begins; sweating comes on and continues until the circulation assumes its normal condition, and the skin its wonted temperature.

These are the ordinary phenomena of malarial poisoning, an attack of intermittent fever. But if by reason of temperament, or if not temperament, some inexplicable cause, the restitutional nutritive process fails to restore the nervous system, and especially the sympathetic peripheral nerves to their original condition, the circulation in the capillaries will be retarded in consequence thereof, hence the generation of caloric therein will be slow and protracted, and hence too the continuance of fever. Under this state of things, although there may be some degree of lowering of temperature of the body; perspiration to some extent ensue, and the pulse may be less frequent. There will, notwithstanding, not be complete defervescence; there will still be some preternatural heat of body, frequency of pulse, and other signs of fever. These are the phenomena of a remitting attack of malarial poisoning! A paroxysm of remittent fever! And if by reason of feeble irritability of the heart that organ should respond to the stimulating effect of carbon in the blood tardily, and feebly, reaction will not be reëstablished at all, or very imperfectly. When this condition of the system obtains, the pulse is feeble and frequent, sometimes not perceptible; the respiration is sighing and labored; the countenance is anxious and indicative of great distress. There is extreme restlessness not referable to pain, and sooner or later there will be a transpiration of serum from the entire surface, which is cold, and has a clammy, greasy feeling. These are the phenomena of an attack of pernicious malarial poisoning! A paroxysm of pernicious chills! A less

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intensified degree of these phenomena is what I understand to be congestive fever! That is when there is imperfect reaction.

Now no one can imagine for a moment so much disturbance to the animal economy, without at once supposing all the organs of secretion to be disturbed in their functions. But before I proceed further, I will here state that I do not regard the organs of secretion in the light that they are generally regarded. But that these organs, by affinity for certain constituents of the blood, attract these constituents into their cells, and there elaborate or transform therefrom bile, or urine, as the case may be, and so I believe with regard to all the secretions. In support of this hypothesis, I will merely say in brief that no one has ever taken these secretions from the blood, or so arranged the constituent elements of these secretions so as to form bile or urine. Hence I contend that they are found in these organs respectively, and exclusively, after the material elements have been extracted from the blood. So much disturbance to the system cannot exist for any considerable length of time without digestion becoming also deranged. In fact, loathing food as a general thing is very soon manifested in an attack of malarial poisoning. Nutrition is also interfered with. I stated that in consequence of the extensive capillary derangement, there was a superabundance of nutritive matter in the blood, which should be removed therefrom, lest complications of a serious nature should supervene, thereby endangering the destruction of organic or tissue life. It is now that the lymphatic apparatus performs an important function, by removing from the blood all that portion of nutritive matter which the capillaries, in their weakened or restrained condition, are not capable of conducting to the anæmic tissues.

The lymphatic system occupies an important position in the animal organization at all times; but in attacks of malarial poisoning, when the capillaries are in a state of hyperæmia, and rendered incapable of performing their functions as sentinels or aisles, as it were, between the arteries and veins, it performs essential and especial functions as stated above. I am led to ascribe to the lymphatic system, the function amongst others of constructing the corpuscles of the blood, (red and white,) and that of elaborating an imperfect kind of fibrine also.

The Spleen.—Of all the organs of the human system, the spleen is the one oftenest implicated in malarial poisoning. Indeed, it is invariably concerned. It subserves the system in the first place, as a conservator, in affording a reservoir for the blood during the cold stage of a paroxysm, which would otherwise be thrown into other organs, or tissues of a more sensitive nature, and of less expansive texture, thereby averting congestion, which probably would prove of a serious character. Notwithstanding the conservative nature of the spleen, other organs do sometimes become congested, and inflammation ensues as the consequence; even the spleen itself occasionally becomes inflamed. Ordinarily the spleen does not return to its

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original size after the subsidence of a paroxysm of malarial fever; does not entirely *disgorge*. Long after the liver, kidneys, skin, and other organs concerned in the seizure, have assumed their usual functions, the spleen may be felt, and pain complained of on pressure being made in the hypogastric region. Every paroxysm increases the enlargement, and a succession of paroxysms are sure to beget a permanent enlargement of the organ. The enlargement is simply mechanical, being the sequence and result of more blood having been thrown into the viscus by the artery, than is carried out by the vein. Hence, in consequence of this retardation of the circulation, more or less blood remains in the organ, and is there disintegrated, and thereby rendered unfit to subserve the system in any way. Though lifeless—deprived of every atom of vitality, it nevertheless remains in the blood vessels, and when the hyperæmia to some degree subsides in the capillaries of this organ, and motion is again restored to the circulation, the disintegrated blood becomes comingled with the vital fluid, and thrown to every part of the system, and is finally eliminated by the liver, kidneys, and intestinal canal excretions, as heamatoidine, urea, uric acid, and malaena. In the meantime we have evidences of the diminution of the red discs, and augmentation of the white ones and fibrine. In other words anæmia.

The liver, like the spleen, is invariably implicated in malarial fevers, but not directly so. In consequence of disturbance of the circulation, and want of due performance of the functions of the spleen, the liver becomes deranged in function, forming too much or too little bile, or bile of unhealthy character. The same may be said of the kidneys in the performance of their functions. I will again remark that digestion is often materially impaired in consequence of the bad quality of the bile in the bowels, or the absence of it, which is necessary for the proper performance of digestion.

The manifestation of malarial poisoning on the human system, in Greene county, so far as I have observed it, has been: First, intermittent; second, remittent; third, congestive fevers, and fourth, pernicious chills; fifth, spleenitis; sixth, erratic muscular rheumatism; seventh, erysipelas; and eighth, pneumonia. There are certain accidental complications which occur quite often, which I shall speak of as they occur in frequency: First, congestion of the brain; second, congestion of the bowels; third, congestion of the lungs; and fourth, hepatitis.

MIASMATIC CACHEXIA.

The pathology and therapeutics of miasmatic cachexia are too imperfectly understood to warrant criticism of the opinion of any one thereon; therefore, I will at once proceed to speak of the disease as it occurred under my own observation, and in as brief manner as possible.

Miasmatic cachexia is the sequel of repeated paroxysms of

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malarial poisoning, in other words, the sequel of chronic intermittent and remittent fevers. Those persons who are subject to the manifestation of the poison every fourteenth day, either of the intermittent or remittent type seem most subject to it. The intermittent form, however, is the most frequent, by reason of its more general prevalence. It is there, I can safely say, invariably preceded by chronic intermittent or remittent fever. I will describe the forms of the disease, the worst and mildest, and must say that there will occur every conceivable gradation of violence, from worst to mildest.

Symptoms.—The patient will have a chill, which will continue for one, two, or more hours; will feel more depressed than he is wont in chills heretofore, otherwise there is nothing to distinguish it from the ordinary chills. As reaction begins to come on, the patient will be more quiet, and will fall into a sleep, which may continue half an hour, or may be one or two hours. On awaking, he will urinate, and, to his surprise and horror, he has voided a quantity of bloody urine. This chill may have been preceded by one, twenty-four, forty-eight, or sixty hours. In the interim thereof there may have been complete intermission of the fever, or may be only a remission. But often after the occurrence of blood in the urine, the fever becomes continued, and there is no recurrence of chill. Thus the disease loses the characters of intermittent and remittent fevers, and presents those of continued fever. It is now that the physician is called on. The patient is found agitated and alarmed, and vomiting a thick, tenacious, frothy mucous, in great quantities. It is generally green or greenish, but sometimes the color is white. It contains a large per cent. of solid matter, free from blood, and always neutral. He complains of no particular pain, but nevertheless is extremely restless, and has the expression of anxiety and despair.

Respiration.—The respiration is irregular and sighing, attributable to the extreme nausea which attends all such cases.

Pulse.—The pulse is extremely frequent, one hundred, one hundred and twenty, and one hundred and forty, or more; full, regular, extremely compressible, gaseous as it were. Though regular, the patient will complain of great weakness; and it may become so weak as scarcely to be perceptible for days, and yet, nevertheless, if the patient is properly nourished, and the bowels restrained, and the temperature of the body maintained by proper means meantime, recovery must not be despaired of. Finally the pulse becomes irregular, feeble, and intermitting as death approaches.

Tongue.—The tongue in all violent cases is large, pale and flabby, bloodless, moist, and covered with a white fur. The lips are of a pale, leaden hue, and corrugated. In less violent cases these characteristics are not so distinct.

The Eye.—The conjunctiva partakes of the sallow hue of the body, the pupil is dilated, and expression dull, surrounding soft parts swollen.

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Bowels.—The bowels are generally open, evacuations semi-fluid, of a brown color, and sometimes molasses-like, but occasionally they are constipated.

Jugular Pulse.—There is jugular pulse in all severe cases; and throbbing and roaring of the head, which is so severe in some cases as to be observed by bystanders six feet distant, and much complained of by the patient. The soft part of the nose becomes of a dark slate color, and the tips of the fingers and toes slough.

Color of Skin and Hæmorrhage from the Kidneys,—I have delayed describing these signs purposely, because they are *sui generis*, and are the characters that distinguish the disease from intermittent and remittent fevers.

There is necessarily sallowness in miasmatic cachexia, but deepening of the hue is not often observed, for some hours after the chill, and not until after the discharge of blood in the urine. From four to twelve hours after the chill, and sometimes later, the skin will begin to assume a jaundiced hue, beginning on the side of the neck above the clavicles, deepening every moment seemingly, and on the second or third day the skin will become mottled, resembling an old lemon.

Temperature of the Body.—The temperature of the body, if reaction is complete and equally distributed to all parts, is great, amounting to 106° or 108°, but if there is not equal distribution of caloric, or in other words, if there is incomplete equilibrium of the circulation, there will be coolness of the extremities and numbness. In the meantime, that is within the first twelve or fifteen hours, the patient will have had two or three hemorrhages from the kidneys, varying in quantity from a pint to a pint and a half, and varying in color from claret wine to that of coffee, with a low specific gravity, and always without clot.

The only complication I have seen in this disease, is inflammation of the parotid gland. This complication came on on the fifth day of the attack, after the skin had cleared, the urine had become free from blood, the pulse had reduced from one hundred and forty to one hundred and seven, and the temperature of the body a little above natural; and the patient having expressed herself in the early part of the night as feeling much better, who, by midnight, complained of pain in the parotid. By nine o'clock next morning the gland was greatly swollen and painful, and the fever very high. The gland suppurated on the fifth or sixth day. The case presented the symptoms of typhoid fever, of which she died about the tenth day after the occurrence of the glandular affection, covered with innumerable small boils on the face, breast, neck, and back.

I have given a condensed history of the worst form of the disease as it occurred in my practice. I now propose to give a history of the mildest form, and cannot do so better than describe a particular case. Mrs. Smith, aged sixty-six, always remarkably healthy and robust previous to present attack of chills and fever, which she

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contracted some eight months since, and which have become chronic. Has children in this neighborhood with whom she was living, and others near West Point, Miss., whither she had gone, hoping to get rid of the chills and fever, and thereby regain her former good health. While in Mississippi she was attacked with remittent fever. On recovering therefrom she determined to return to her home in Greene county. Her physician furnished her with an ounce of tincture ferri chloridi, and directed her to take ten drops three times a day. Before getting to Meridian, Miss., she was feeling very badly, and on reaching there, discovered she was passing bloody urine. She hastened to Demopolis, thence home, and sent for me to see her. I found her sitting up, complaining of great weakness, but no pain; very sallow, spleen enormously enlarged, but not painful on pressure; bowels open; no nausea, and passing bloody urine (unmistakably,) in large quantities.

Pathological Characters.—What I may say of the pathology of miasmatic cachexia is circumstantial, hence, in the language of Goethe, "what I know is little; that which I know not is immense." The spleen is invariably enlarged, and hence diseased functionally. This functional derangement of the spleen, whereof the blood is damaged, is the prime cause of the disease in question. So long then as the spleen is able to perform its functions we will not see *Cachexia miasmatica*, although we may be surrounded daily by cases of chronic intermittent fever—lean, swarthy, inert, jaundiced looking people. Still the spleen is able to discharge its functions, imperfectly it is true; and it is where these functions are so deranged that the disease assumes the characters of miasmatic cachexia, and loses those of intermittent and remittent fevers.

The Blood.—The blood is affected in all of its constituent parts, but in some more than others; the red corpuscles are disintegrated, dissolved, in some cases more and in some cases less, but in every case more or less, and in some cases alarmingly so. This disintegration takes place in the spleen in consequence of non-performance of function of that organ, and in which pounds of dissolved and lifeless blood accumulate.

The Color of the Skin.—The sallow color of the skin is the effect of the escape of the hæmatin of the dissolved corpuscles through the walls of the capillaries into the connective or areolar tissue; and the hæmaturia proceeds from the same cause, and not congestion of the kidneys, as maintained by some.

The Liver.—The liver is not specially deranged in this disease, and certainly not in secretion of bile, or the obstruction of the *ductus communis choledochus*, through which the bile passes into the duodenum, for I have invariably found bile in the dejections abundantly.

Treatment.—I have seen an occasional case of this disease every year, all my professional life, and it was not until 1865 and 1866, when the disease became somewhat epidemic, that I could persuade

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myself that it was *sui generis*, and not a violent form of remittent fever—hopeless; medicine useless. In September, 1866, I saw my last fatal case. It was then I changed my opinion of the nature of the disease and treatment also, and have had, to the present, no cause to regret the change. Calomel, quinine, opium, blisters, &c., in large doses and small, proved fearfully unsuccessful in my practice.

If the patient is vomiting quantities of tenacious, thick mucus, it would be useless to administer any kind of medicine until the stomach is emptied of this mucus; otherwise the medicine would become entangled therein, and consequently but little of it would reach the circulation. In this disease time is precious; therefore, instead of administering remedies and have them suspended in the mucus in the stomach for hours, or ejected therefrom as fast as taken, I am in the habit of administering ipecacuanha in divided portions every fifteen minutes until vomiting ensues, and thus continue it until the stomach is entirely emptied and bile is ejected. I then give a small dose of morphine to arrest the nausea and quiet the patient. If the tongue is loaded with fur and the bowels retentive, I combine a small dose of calomel with the morphine. I rarely ever, however, find it necessary to administer mercury, and never do so beyond a small dose at the outset of the attack. Mercury I hold to be one of the most objectionable remedies, in this disease, in the whole catalogue of medicines. Besides emptying the stomach of mucus, whereby it will be prepared to act on medicine efficiently, ipecac tends towards equalizing the circulation, thereby increasing the force of the pulse, restoring warmth to the extremities, producing softness of the skin and reducing the frequency of the pulse, and it very often supersedes the necessity of administering any aperient the succeeding twenty-four hours. If the bowels have not acted well within three or four hours after the emetic, and there is no indication for the administration of the dose of mercury, I give a dose of castor oil, if the stomach will retain it; if not, a dose of rhubarb will suffice. It is important that the bowels be well evacuated, but hypercatharsis is by no means wished for.

So soon as the stomach becomes quiet, or the patient rouses from his nap, I begin to administer the *Tinctura ferri chloridi* in doses ranging from twenty-five (25) to sixty (60) drops, in a wineglass full of water, every two (2) or three (3) hours, day and night. This remedy I consider the sheet anchor in *Cachexia miasmatica*. Although in very large doses it may nauseate the stomach, in smaller ones it is one of the most efficient to allay nausea. Soon as practicable (i. e., as soon as it can be prepared), I begin to nourish my patient by giving half ounce or ounce of beef, mutton or chicken essence; this I give every four (4) hours as regularly as medicine, whether the patient desires it or not.

If there is pain in the head, or the jugular pulsation is tumult-

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uous, whereby roaring in the head is complained of, I keep a stream of cold water pouring on the head constantly, and at the same time the extremities are kept warm by artificial means. If such condition of things obtain, I do not hesitate to use cold water abundantly and continuously; for I assert, and know what I do assert, that, however weak the pulse may be, cold water applied to the head, and the extremities kept warm meantime, the pulse will improve.

In October, 1868, I had poured on the head of a delicate young lady, incessantly, without intermitting five minutes at a time, night and day, cold water for twenty-one (21) days. I know again whereof I speak.

Quinine I rarely ever give. It is certain to increase the nausea and vomiting, and in large doses begets a nervous condition of the brain and headache, without controlling the fever in the least. I have never seen it in small or large doses, i. e., in doses varying from two (2) to twenty (20) grains, reduce the frequency of the pulse or the temperature of the body. I have never given less than twenty-one (21) grains nor more than one hundred (100) in the twenty-four (24) hours. I must say, and with regret do I say it, for quinine is a favorite remedy with me in almost all diseases incident to this portion of our country, that I have not in a single instance seen the good effects of quinine in this complaint.

Fly blisters I never use in any way whatever, but mustard cataplasms and foot baths are invaluable as revulsives and derivatives, and should be resorted to time and again.

Opium, generally in the form of morphine, in some cases is indispensable, quieting restlessness and controlling nausea and vomiting when all other remedies fail; but for this purpose the alkalies and neutral mixtures may be tried.

When the vital powers begin to give way—when the pulse becomes frequent, feeble and intermitting, and the extremities cool and numb, and finger nails leaden color, alcoholic stimuli may be used with some hope of benefit, but I have not been favorably impressed with this manner of stimulation. But that manner of stimulation I have seen most good result from, of which none other is comparable, is to wrap the patient up in blankets wrung out of boiling water and reapplied as fast as they cool, and thus continued indefinitely.

I wish it borne in mind that it has been my purpose to give a practical rather than a scientific history of miasmatic cachexia, and at the same time I have endeavored to condense as much as possible. Much might be said about the *modus operandi* of mercury and quinine in this ailment, but I doubt whether the profession would be benefitted thereby, in the present state of our knowledge of the nature and pathology of the disease.

Remarks.—It is a part of my theory that all the component parts of the blood are affected in miasmatic cachexia, either in quantity or quality, and especially that of the red discs. In this element

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there is more or less disintegration, whereby separation of the hæmatin and iron occurs—hence the loss of their vitalizing influence on all the tissues of the animal economy. Hence, too, the escape or exudation of their coloring matter through the walls of the weakened and attenuated capillaries into the adjacent areolar or connective tissue—hence the sallow or bronzed skin.

I base the *modus operandi* of the muriated tincture of iron on this hypothesis, and will proceed to speak of it more in detail. First, then, it acts on or promotes primary assimilation before it leaves the stomach, by reason of the chlorine therein contained; and at the same time, before it leaves the stomach, the iron itself acts beneficially on the relaxed and patulous mucus membrane, whereby nausea is lessened and the mucus (heretofore spoken of) diminished in quantity through its constringing effect. After it enters the circulation immediate reparation begins in the red corpuscles and secondary assimilation is promoted, whereby the mass of blood is enriched and new corpuscles are formed, and, as the result thereof, the attenuated, relaxed and patulous capillaries are restored to their wonted size and functional capacity; hence hæmorrhage ceases and absorption begins, and sooner or later the effused matters—the hæmatin and serum that exuded through the relaxed capillaries—are absorbed. This being completed external pressure is removed from the systemic capillaries and peripheral nerves, equilibrium of the circulation will of necessity follow; and of necessity the fever will cease, and the various organs assume their former functions.

Although in this neighborhood there are four negroes to one white person, I have never met the disease in the negro, and only once in the mulatto, and in this case I have reason for believing it is a quadroon instead of mulatto.

In this connection I will remark that, in a pretty extensive practice during the past eighteen years in this vicinity, I do not remember ever to have seen a case of enlargement of the spleen, or hypertrophy of the spleen, or splenitis in the full-blooded negro, and only one case of splenitis in the mulatto.

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REPORT OF ANALYSIS OF URINE IN A CASE OF HÆMORRHAGIC MALARIAL FEVER.

By T. O. SUMMERS, M. D., Professor of Chemistry in the Southern University, Greensboro'.

It affords me pleasure to submit to you this evening the result of my investigations upon the pathological condition of the urine in the disease commonly known as *Hæmorrhagic Fever*, or, as better styled by some of you, *Cachæmia*. The case upon which these investigations were made was a typical one, occurring in the practice of Dr. Young, of this place, to whom I refer you for information as to the diagnosis and prognosis of the disease, as well as all the details of the case, with which I am not acquainted. The analysis, the results of which I am about to submit to you, was undertaken by me without any preconceived theories of my own upon the nature and cause of the disease, nor was I biased in my views by the opinions of others upon the same, as I have neither heard it discussed nor read anything whatever upon the subject, having only been a short time in the region of its occurrence. I make these preliminary observations because the tendency of analysts generally to conform their observations to theories already formed is unfortunately too well known to you.

1. The first specimen of urine presented for analysis was of a deep red color, perfectly opaque, of an alkaline reaction, and a specific gravity of 1.025. The quantitative analysis I give, as follows:

Water	924.50
Urea	31.00
Creatine	2.50
Creatinine	1.50
Urate of Soda, Urate of Potassa, Urate of Ammonia,	1.60
Glyko-cholate of Soda	1.45
Tauro-cholate of Soda	1.00

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Coloring Matter and Mucus	2.50
Pus	1.50
Alkaline Phosphates	3.45
Hematine and Hematosine	3.50
Chloride of Sodium and Potassium	7.30
Sulphates of Soda and Potassa	7.00
Albumen	11.20
	1.000.00

This specimen, when evaporated, left a coagulum which could be with difficulty distinguished from blood itself.

Under a microscope of five hundred diameters I did not detect but about two (2) well defined blood corpuscles to the inch, though the coloring matters of the blood appeared to be generally diffused. Leucocytes or pus corpuscles, readily distinguishable, as you are well aware, from the white corpuscles of the blood by their granulated appearance, were very numerous—about thirty to the inch.

The crystals of glyko-cholate of soda were well defined, surrounded by drops of the uncrystallizable tauro-cholate of soda, which latter were only distinguishable from oil globules by their chemical properties.

Crystals of triple phosphates were not so abundant as in normal urine, as you will see confirmed by the chemical analysis. None of the other biliary salts were recognizable under the microscope.

Crystals of creatine and creatinine existed in large proportion.

The sediment of the urine was strongly colored with uro-sacine.

2. The second specimen of urine from the same patient presented very much the same characteristics as the former, with the exception of the color, which was not so deep. It was thinner in its appearance, though the specific gravity was just as much. Its reaction was acid, and the sediment after standing was larger and more flocculent.

3. The third specimen presented scarcely any of the characteristics of the other two. It was at first slightly tinged with red, but after standing became of a bright amber color, and with the exception of the sediment, which was for the most part albumen, was in every respect normal in its appearance and constituency. Its reaction was acid.

The tests usually resorted to for the detection of bile failed to establish its presence. I did not rely upon Pettenkofer's test for bile, though of course I applied it. If it would not seem presumptuous in me to say so, I would pronounce this test, though the one usually resorted to by the best physiologists and generally relied on, the most uncertain and unsatisfactory of all the tests which have been applied for the detection of bile. I have produced the same results with this test where I knew there was and could be no bile present. It is claimed for this test that the reaction is produced by the presence of either or both of the biliary substances proper; but

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we frequently, as in the analysis before us, wish to know not only whether bile is present or not, but whether, having been present, it has left its impression and then undergone decomposition, which would render its detection by this test absolutely impossible, for the abstraction of the coloring matters from the bile, it is well known, does not affect Pettenkofer's test at all. I therefore rely on the microscope almost exclusively for the detection of biliary substances proper, as also the coloring matters of both bile and urine.

It will be remarked, also, that blood did not exist in this urine in an organized condition, as only one or two well defined corpuscles could be detected in an inch of surface, though the coloring matters of both blood and bile are present in large quantities, which, being superinduced upon the uro-sacine itself, produce the deep red color now considered pathognomonic of the disease.

Dr. Taylor, of the United States Army, and Dr. Love, of the Georgia Medical Association, were called upon to express their views upon the subject of the pathology and treatment of the disease. Dr. Taylor's views are stated in detail in the following letter:

THOMAS BARRACKS, HUNTSVILLE, ALA., April 10, 1872.

"*Dr. Wm. Abram Love, Atlanta, Georgia:*

"DEAR DOCTOR,—Your favor of the 8th instant, in relation to my desultory remarks before the Alabama State Medical Association on the subject of malarial hæmaturia, is received, and I hasten to reply as requested.

"My microscopic examinations were limited to the blood and urine of the patients after the disease had been fully developed, and after death. The magnifying power employed ranged from two hundred and fifty to five hundred diameters. These investigations embraced several specimens of urine,—obtained, in one case, once daily—in another, twice daily—in the others, only a single specimen from each. The time elapsing after the fluids were obtained from the patients, before examination, ranged from about ten minutes to twelve hours.

"In all the specimens of urine examined, I found blood-corpuscles. In one case, when the urine was nearly of the natural color, and when, from the general improved condition of the patient, the opinion was entertained that the hemorrhage had ceased, I found the red blood-corpuscles still present, though in diminished numbers, indicating that the improvement was more apparent than real.

"In the examination of the urine, the following microscopic elements were observed:

"1. The usual epithelial cells of the urinary passage.

"2. A very few hyaline uriniferous tubules.

"3. Vibriones—consisting, apparently, of a row of cells 1-10,000 in diameter—varying from two in number to fifteen or twenty, and enclosed in a delicate tubular investing membrane. They moved with considerable rapidity across the field of vision, and seemed to multiply by subdivision. In one case, a vibrio, consistiug of fifteen or twenty cells, separated in the middle, and the respective parts moved with equal facility in opposite directions.

"4. Active molecular elements of cellular structure—ranging from about 1-10,000 to 1-15,000 of an inch in diameter—having slight locomotive

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powers, so that they could change their focal distances tolerably quick, but moved their position across the field slowly, and this chiefly by a process of rotation or amæboid movement; others spun around upon their own axes with great velocity.

"5. Bacteria. Some of these were attached to the red blood-corpuscles. They appeared as caudate, moniliform appendages, with slight, wavy motions—their length exceeding four or five times the diameter of the blood discs.

"White blood-corpuscles were present in about the usual proportion of malarial blood—that is, rather in excess of what is seen in the blood of vigorous healthy subjects.

"In one case—being that of a child about three years old—the blood was disintegrated, and the coloring matter diffused throughout the fluid, the corpuscles appearing shrunken and crenated. (Hæmaturia.) The examination of the blood was made two hours after death, and embraced a single specimen. It was fluid when drawn, but coagulated after the lapse of a short time. The specimen was obtained from the median vein of the forearm, by making an opening into the same, drawing the blood into a capillary tube, and then placing this under the microscope in about fifteen minutes. In this the same microscopic blood-changes were observed as in the urine a few hours before, with the exception that there was a much larger proportion of leucocytes in this blood from the arm than in that coming through the kidneys; in fact, these bodies appeared in the proportion of about one to eight or ten of the red corpuscles. This excess may be due in part, perhaps, to the greater facility with which the red blood discs move with the currents setting in from the remote capillaries to the larger interior veins, after death; but, I apprehend, not wholly so. The vibriones were made up of two or three cells only, but were very active; the single molecular cell-structure rotated very rapidly, and the bacteria, though less in size, were still present—a few attached to the red blood-corpuscles, while others were not.

"The urine of all the patients was examined at various times for the presence of bile; but in none did it appear in response to the nitric acid, Heller's or Pettenkofer's tests. These conditions of the blood indicate its incipient decomposition, and perhaps imperfect aeration, and that these elements are developed within the body before death by the zymotic changes incident to the malarial poisoning. In one instance the urine had remained in the bladder less than three-quarters of an hour, and yet these zymotic changes and active elements were abundantly manifest. This was observed the day before the patient died, showing that the blood from the kidneys was a fair representation of the condition of that fluid throughout the body at the time.

"My remarks in relation to the prevalence of the malarial fevers in high northern latitudes were in effect to show that the prevalent opinion entertained by the profession as to their limitation is erroneous. It has been said, repeatedly, that these fevers are not found in the Lake Superior country, in northern Minnesota, and the territories westward therefrom. My own observations are the very contrary of this; for I have seen native white and Indian inhabitants on the north shore of the lake, half-breeds, from Hudson's Bay, and white inhabitants from Lake Winnepeg, who had never been south of the southern shore of Superior, who had well marked forms of ague, even in the colder months of the year, and I have been credibly informed that the valleys of the Sascathawan and Assinaboin, autumnal fevers, which are of the remittent type generally, are very severe, often fatal, and require the administration of quinine in large doses for their cure. It is true that the remissions are not always as thoroughly pronounced as in the sections farther South,

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but they are not to be mistaken by any careful observer. Indeed, the native Indians recognize them, and have their special modes of practice for their relief from disorders of this kind.

"Whether these remarks are pertinent to the subject you wish to elucidate, I do not know; but as they bear on the subject of malaria, and do not seem to be generally known, I send them for your use, if you wish.

"Yours, truly, M. H. TAYLOR,
"Assistant Surgeon, United States Army."

Dr. Love, while agreeing in the main with Dr. Taylor as to the results of microscopic investigations of the disease of the blood and urine, as presented in such cases, regarded the disease as one of malarial origin in a broken-down system—broken down under repeated attacks of intermittent or some form of malarial fever. He looked further for the true pathology of the disease—to the minute microscopic anatomy of the liver, as presented by Dr. H. D. Schmidt, of New Orleans, He (Dr. Love,) regards the disease as one originating in a *regurgitation*, so to speak, *of the bile from the minute biliary tubules into the anastomosing, minute lymphatic vessels of the liver*—passing thence along the lymphatics, to be poured into the thoracic duct, thence into the venous system and the general circulation. This he believes to be the origin of the *blood-poison* in the disease, and the peculiar character of the blood referred to by Dr. Taylor and others in the microscopy and chemistry of the blood and urine in such cases. He regards the disease as one of blood-poison from the direct introduction of the biliary secretion into the blood through the lymphatics of the liver. The color or *bronze* condition of the skin and tissues may result from the additional action of ammonia, or a compound of nitrogen and hydrogen in the blood, acting on the non-assimilable albumen in the *liquor sanguinis*.

His treatment is based upon the pathology of the disease. Much may be expected from the anti-zymotic action of sulphurous acid gas introduced or liberated in the stomach by the introduction of sulphate, or preferably hyposulphite, of soda thrown in small and oft-repeated doses into the stomach. (Chloroform in small doses by the stomach, alternated with the hyposulphites, will be found of much service.) Calomel he has not found very advantageous. Quinine, followed by the hyposulphites, to anticipate the paroxysms, opium at night, and when the paroxysms have been arrested, the nitric and muriatic acids as tonics, give the leading indications in treatment. Saline baths or sponging, or the sponging with nitro-muriatic acid in a diluted form, or the chlorinated soda, will often promote cutaneous action as well as renal, and allay the nettle-rash so frequently annoying in the convalescence.

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REPORT ON THE DISEASES OF JACKSON COUNTY.

By J. S. BANKSON, M. D., of Stevenson.

The principal diseases of Jackson county are malarious, having an abundance of low, marshy land in the river valley, along the creeks and coves, and even some on the Sand Mountain on some creeks or marshy lands, but not to so great an extent, some portion between the mountain and river. The citizens remove to or on top of the mountain some time in June or July, but the latter month is generally too late. They are very apt to have intermittent or remittent fever. On a portion of Crow Creek, where the valley is narrow between portions of the Cumberland Mountain, congestion is often so violent that the case terminates fatally in twenty-four hours or less. Some persons (much debilitated) occasionally die suddenly, almost instantaneously, from rapid or severe congestion of the brain. The treatment of these severe congestive chills, as they are called, has necessarily to be prompt and active in endeavoring to procure a reaction—stimulants and tonics in large doses, sinapisms and warm applications to the extremities. But in what is termed congestive fever, when the body and head are very hot but the extremities cold, I think that a dangerous treatment; and consequently I apply to the body and head pleasantly warm water, warmer for the body than the head, and also warm applications as before to the extremities; very little medicine of any kind till there is a considerable remission or intermission of fever, and then cathartics, diuretics, or tonics, as indicated.

Bilious Intermittent Fever.—In the absence of the fever a similar treatment is adopted, but during the hot stage or regular fever, when not sweating, I keep the head wet with cold water, and also the body or whole system continually wet or sponged till the fever subsides, but not much medication till the stomach is cooled by ice or cold water. Internally at the time of the external applications, as before mentioned, I use principally vegetable purgatives, sometimes mercurial, in large doses; then quinine as soon as the stomach and fever will permit. These cases, though violent, convalesce in

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about four or five days, if the treatment is commenced early in the disease.

Fever and chills are more abundant in August and September, and are frequently followed by catarrh and pneumonia in winter and spring, and may be succeeded by all the diseases that are common to other Southern or even Northern States. This last winter we have had some cases of cerebro-spinal meningitis, some of which were complicated. I saw one child that recovered, except his eyes (he was blind), after an illness of about three weeks; he was four years old. A young lady aged about twenty-five, died with a complication of said disease. I treated a mulatto boy, twelve years of age, who died after an illness of fifteen days; his treatment consisted in cathartics, tonics and warm bathing. I learn that there are a few more cases under treatment now in the county. We have had small-pox (1866), measles, hooping cough, and occasionally phthisis pulmonalis, no doubt frequently as a sequence of the effects of malaria.

I cannot give a complete synopsis of the medical diseases of the county. We also have surgical cases, especially along the railroads. I can prepare a more thorough report against the next meeting.

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REPORT ON THE SURGERY OF JEFFERSON COUNTY

By F. M. PRINCE, M. D., of Elyton.

In performing the task allotted to me, I beg leave to report the following cases:

Was called February 16th to see Jim Bell (freedman), who was once a soldier in the Northern army. He was very expert in military tactics, and was showing to other freedmen the manner in which he shot "*rebs*" when they crossed the dead line—which was by cocking his gun with the "big toe," and firing before they could recross. This time, for once, the hammer failed to obey, and, as a result, fifteen buckshot entered the palm and came out on the back of the right hand; one shot, seemingly more determined than the others, passed through the eyebrow. The metacarpal bones of the hand, with the exception of the little finger, were completely shattered, with extensive laceration of the tissue.

With the assistance of a Mr. Scott, who had him in charge, I amputated the metacarpal bones near their articulation with the wrist, and by this operation endeavored to save for him the thumb, little finger, and wrist joint. The hæmorrhage was slight, and I applied no ligature, as it was difficult to do so satisfactorily on account of laceration. By the use of a bandage and adhesive strips, the thumb was brought in as close proximity with the little finger as could be done, in order to exert, if possible, sufficient pressure upon the arteries to prevent excessive hæmorrhage. Feeling that my patient was not safe, I left the tourniquet upon the arm, with directions how to use it. Gave one grain of opium every hour till sleep was obtained, and ordered a large dose of castor oil to be given in the morning.

On the 21st was sent for in haste. As I had anticipated, hæmorrhage occurred—five days after the operation—but he adjusted the tourniquet, and when I arrived it was checked. I then applied a compress, as best I could, over the region of the *Arcus sublimis* and *Palmaris profunda*, kept him upon the water dressing, and he recovered without further trouble. The question to decide in this case was, where to operate with the greatest hope of success. The pros-

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pect was very tempting to amputate the forearm, but feeling it to be my duty to save as much of the limb as possible, I determined upon the operation performed.

Case II.—Was called March 27th to see Mrs. W——, of Walker county. She had been in labor twelve days, in charge of Dr. Snow, to whose kindness and assistance I am much indebted.

Mrs. W. was much enfeebled, with entire cessation of uterine contractions. Upon examination, found head of child firmly impacted in pelvic cavity; superior strait unusually small—antero-posterior diameter two and a half inches, transverse about three and three-quarter inches—so small as to be an effectual barrier to any further advance on the part of the child.

When told that she must submit to an operation, her answer was, "Take it away, Doctor." It was with difficulty that I introduced the forceps, after determining, if possible, to use them; but I did so, and removed a medium-sized child, which lived only twenty minutes. It was very much deformed; left ear very large, right ear very small; one eye in natural position, the right—but the left eye was protruding from the left uppermost angle of forehead, with a smooth frontal bone beneath; and a large tumor on left side of neck, which was the obstruction in the way in the introduction of the forceps. When the child was removed from the pelvic cavity, instead of hæmorrhage, there escaped an exceedingly offensive odor, unequalled by anything I ever came in contact with, and for which I was not prepared to assign a reason. It soon filled the room, so that windows and doors had to be thrown open for the protection of persons in the room. I felt somewhat relieved until, placing my hand upon the still distended abdomen of the woman, I was satisfied that there was still another child, or motionless mass of some kind, and it was where it could not be felt per vaginum. Could my hand have been passed into the cavity I would have been at no loss.

Still there was no hæmorrhage, and, when asked by me, Mrs. W—— told me she felt better. As there was no danger of her dying from hæmorrhage just then, I determined to wait and see if rest would not bring a return of contractions. After taking sufficient morphine she went to sleep, and slept undisturbed for several hours. On awaking, there had been no return of uterine contractions and no hæmorrhage, but from some spontaneous action or evolution on the part of this child it came in reach, and was soon delivered, and immediately behind it a very large placenta, with two cords, one passing to each child. There was a gush of blood that followed, but with continued application of cold and manipulation the womb was persuaded to contract, and the danger from hæmorrhage was over.

This second child was a dead, putrid mass, and accounted for the disagreeable odor that escaped after the removal of the first child. But, like the first, it was greatly deformed. The head as high as the margin of the hair was natural, but there began a projection

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that jutted over half an inch all round, as though a double head was forming. It was no case of hydrocephalus. The right eye was natural and in proper place, but for the left there was a slight indentation with orbital ridge. Hands and feet unusually large.

I then, in anticipation, advised the use of calomel and Dover Powder, three grains of the former to five grains of the latter, every four hours, till three doses were taken—the bowels afterwards to be moved by oil. I looked forward to peritonitis, which happily she avoided, and soon recovered.

This is the twenty-fourth case of twins occurring within my knowledge in four years, and lest this case should be confounded with another case similar, which occurred just twelve months before, and which I reported in a medical journal—the mother in the first (Mrs. N——) died, and one of her children still lives. Both cases were primipara. This may not properly be called a surgical case, but an interesting case of obstetrics aided by surgery, and as there is no direct report upon obstetrics, I hope I shall be pardoned for presenting it. A question arises from it. How could one child live in a womb with another dead and putrid, when both were attached to the mother by the same placenta, and not affect the constitution of the mother?

Case III.—A young woman, aged twenty-two. Her hand and arm was drawn into a sorghum mill, by which every bone was crushed from the first phalangial bone to the elbow. It had been done eight days, and when I saw it was a putrid mass. She was plump, robust, and of fine constitution. With the assistance of an old gentleman and two ladies, I amputated the arm, leaving sufficient flap to cover well the end of the bone. Ligated the brachial artery, glazed the stump, brought the parts in apposition by means of adhesive strips, applied a bandage, and directed her nurse to keep the arm wet with cold water till my return. Put her upon a solution of morphine, to be given in teaspoonful doses every hour till sleep was obtained. Returned and found her doing well; continued water dressing. Returned again on the tenth day; still improving; no disturbance to constitution. Saw her no more till after complete recovery.

Case IV.—A young man, about twenty-five years of age, in feeble health, much emaciated, and suffering with ulceration of testicle, the result of gonorrhœa, contracted some months previous. Put him upon tonics, but soon saw that the testicle had to be removed. His consent being obtained, I took away the testicle, leaving the epididimus and cord. Put him upon iodide potassa, five grains three times a day, kept the parts well moistened with black wash, and soon had the satisfaction of seeing his general health improve. The scrotum soon closed up, and when I last saw him he was in fine health.

There were other surgical operations occurring in my own prac-

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tice, to which I will not refer, as I desire to report cases in the practice of other physicians in the county.

The following cases were handed to me by Dr. M. H. Jordan:

DR. PRINCE:

Dear Sir—In compliance with your request, I present below a brief report of the few cases of surgery that occurred in my practice during the year 1871. For your sake I must regret the meagreness of cases, but it gives me pleasure to state that I have met with but few cases or accidents that required surgical aid or interference.

The first case that I shall report is that of Hugh Riley, an Irishman, aged about forty years, and a laborer on the South and North Railroad. On the 20th of November last I was sent for to see the above named Irishman, with Dr. Morrow, who on my arrival gave me the following history: Riley and several friends had got on a spree the night before, and about twelve o'clock they got into a difficulty, in which Riley received a wound with a knife or dirk in the upper third of the left inguinal region, penetrating the peritoneal cavity and letting out his bowels—that is, the descending colon, a part of the great omentum, and several convolutions of the small intestines.

I reached the place at nine o'clock in the morning, just nine hours after the accident occurred, and found the patient in the following condition: Complaining of intense suffering, restless, pale and anxious expression, and a small, feeble pulse. The exposed bowels were very much congested, bruised, and strangulated, and small particles of dirt or soot were to be seen, which had either settled there (on bowels) from his dirty clothing, or from the roof and walls of his cabin. After having washed the exposed bowels well with warm water, Dr. Morrow put the patient under the influence of chloroform, and then I proceeded to replace the bowels through the opening, but found it impossible, on account of the amount of swelling and strangulation. I immediately entered a grooved director into the upper part of the wound, and with a small bistonry enlarged the orifice directly upwards for about a half inch, and then with some difficulty succeeded in replacing them, and closed the wound with the interrupted suture. I took particular care not to wound the peritoneum with the entrails, but passed them strictly through the muscular coats of the abdominal walls. Before dressing the wound, I concluded that it would be well to turn the patient over and let all of the blood, that would, escape. I then applied two adhesive strips directly across the abdomen (one above and the other below the wound), to support the parts and prevent a ventral hernia. I left the patient with instructions to drink no more whisky, eat light diet, apply cold wet cloths to wound, and take a pill of gum opium often enough to secure rest and lock up the bowels.

At my next visit (two days after) I was surprised to find my patient alive, and was still more so when I examined him, and found but little soreness or tenderness over the abdomen, but little perito-

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nitis, but little fever, and some appetite. I continued the opium treatment, but stopped the water dressing, and applied a poultice.

At my next visit (one week from date of injury) I found my patient complaining of intense pain in his bowels, and seemed very much discouraged and disheartened. On examining the wound I found that it had almost united externally, but his abdomen seemed to be tympanitic and much distended with gas. Whenever the gas would move in the bowels it would collect in a knot directly under the wound, as large as a small orange, so I concluded that a ventral hernia was imminent. I immediately ordered an enema of warm soapsuds every hour until the bowels were well moved, and then friction with turpentine over the bowels, and a few drops internally occasionally to relieve the tympanitic condition of the bowels.

The last time I saw this patient he was entirely well, with no indications of a ventral hernia, which I am certain he would have had if the muscular walls of the abdomen had not been supported during the whole treatment with adhesive strips. The points of interest to me in this case are: the length of time that elapsed between the reception of the injury and the replacement of the bowels, the amount of bruising and strangulation that the bowels received, and the small amount of peritonitis that supervened.

Case II.—On the 25th of last April I was summoned by the warden of the Alabama Penitentiary to visit his convicts at Brock's Gap on the South and North Railroad.

Among other cases I found Henry—who, I learned from the Superintendent, had received a simple though severe comminuted fracture of both tibia and fibula of the lower third by the falling of a stone from the scaleboard of the derrick, which was used to elevate rock out of the excavation. I found the patient on his bed, which he had kept from the date of his injury (about seven weeks before), with his limb neatly done up in a fracture box, which had been prepared by Dr. D. D. Oates at the time that it was broken.

After removing the bandage and taking the limb out of the box, I found no swelling and scarcely any soreness or tenderness over the seat of the fracture, but the limb hung as loosely and swung to and fro as readily as if the foot was simply suspended by the integument. To my surprise there was no bony union, but the ends of the bones and the loose fragments had become adhered together through the medium of fibrous, ligamentous or fibro-cartilaginous tissue. Thinking that the tardy union in this case was due to the excessive use of cold water as a dressing and the anæmic condition of the patient, I applied a starch bandage, and put the patient out in the open air on his crutches, and gave him tonics of iron and quinine three times per day, in combination with as good and nutritious diet as I could get.

My patient not seeming to improve under the above treatment, I concluded that the difficulty was an insufficient amount of vascular excitement at the seat of the injury.

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For this complication I resolved to try friction, in combination with frequent blistering over the seat of the fracture, to arouse sufficient capillary action. After trying the last-named remedies, with but little improvement, I made a small puncture through the skin with a small bistonry, directly over the ends of the bones, and entered a probe at a white heat, to stir up the bones and create sufficient inflammatory action to secure a rapid union. Under this last treatment the limb improved so much that the patient threw away his splints (simply using a bandage) but the union was very imperfect.

As a last resort, I concluded to introduce a seton, as was recommended by Dr. Physick in 1862; but not having the requisite instrument, I could not pass the seton between the ends of the bones, but through the fleshy part of the limb, as close to the bones as possible. I removed the seton on the eighth day, which seemed to answer a good purpose, giving the patient a moderately useful limb.

The bony union in this case is still imperfect, though greatly improved by treatment, and I am confident that it can never be remedied until a few loose fragments of bone are removed, which the patient is unwilling to submit to up to this time.

Case III.—The next case is that of the amputation of leg of Columbus, a negro boy aged about twenty-four years, and a convict in the Alabama Penitentiary. This boy received a fracture of the astragalus and oscalcis, with great contusion of the soft parts and complete laceration of the tendo-achillis, by the falling of a rock from a blast at Brock's Gap, on the South and North Railroad.

I saw the case about six hours after the accident, and found him complaining of intense suffering and having some hæmorrhage, which I supposed came from the internal calcanean branch of the posterior tibial artery. I immediately arrested the hæmorrhage by a compress of lint saturated with a solution of per sulphate of iron, bound directly over the bleeding surfaces with a bandage, and ordered it wet frequently with cold water. After giving an anodyne my patient rested well for the night, and the next morning I left him, apparently doing well. At my next visit, two days after, I found the patient in a bad condition, with his wound emitting a fœtid, bad odor, no discharge, and a decided tendency to sloughing. I immediately stopped the water-dressing, and applied a strong solution of carbolic acid in glycerine twice per day.

At my next visit (about three days after), I found my patient growing rapidly worse; the slough had extended in every direction over the soft parts, and the end of os calcis was entirely denuded of periosteum, and felt, under the touch, to be soft and spongy.

Owing to the great amount of local irritation, the patient's general health was rapidly declining. At this visit I found him with a restless, anxious expression, hot skin, furred tongue, no appetite, and his pulse one hundred and twenty per minute. I saw that no

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time should be lost in determining the propriety of amputation. Any means calculated to build him up was seriously overbalanced by the excessive pain and irritation to which he was hourly subjected.

On the 16th day of June, about eight days after the accident, with the valuable assistance of Dr. J. B. Vann, the patient was put under the influence of chloroform, and I took off the leg about four inches below the knee. After tying up the arteries, and applying a saturated solution of carbolic acid in glycerine to the flaps, we took the patient off of the table with a better pulse than when we began. This result we attributed to having given the patient a stiff toddy of whisky and an enema of carbonate ammonia (grains xx) immediately before administering chloroform.

Although this patient recovered with an excellent stump, he required careful and constant watching for several weeks, combined with the persistent use of tonics and nutritive diet.

Case IV.—Sam, a negro boy, aged twenty-two years, came to me last December with a case of phimosis. On examination I found this patient with an elongated prepuce, so closely adhered to the glans penis that retraction was impossible.

I put the patient under the influence of chloroform, and performed the operation of circumcision, by drawing the prepuce forward with a pair of slender forceps and cutting it off at a single sweep with a small bistonry. I then slit up the adhered mucous membrane with a pair of scissors and rounded it off so as to fit the prepuce, and then stitched them together in several places with the interrupted suture.

I directed frequent applications of cold water, and gave bromide of potassium in twenty grain doses for several nights to allay irritation and prevent erections, which I feared might cause a tearing out of the sutures before the parts united.

This case healed up without any further trouble, and made a good recovery.

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REPORT ON DISEASES OF LAUDERDALE COUNTY.

THE MEDICAL TOPOGRAPHY AND CLIMATOLOGY AND THE ENDEMIC DISEASES OF THE COUNTIES ADJACENT TO THE MUSCLE SHOALS OF TENNESSEE RIVER.

By Dr. JAMES KYLE, of Florence.

The belt of country in the northeast has a climate of intermediate temperature to those of extreme southern and northern climates; and the diseases incident to this section are modified by the topographical and climatological influences which are incident to this section.

The influence of climate, topography, and endemic causes of diseases, have much to do in modifying the etiology, pathology and diagnosis, as well as the remedial management of diseases. In verification of this position, we but seldom find a well marked case as to the symptomatology of either typhoid or typhus fever, corresponding in the South with those of northern climates. The characteristic cutaneous eruption which is seldom absent in typhoid fever of the North, is as rare here as it is common in the North. Indeed, from clinical observation of a third of a century in this section, I am quite sure I have not seen a dozen cases of typhoid fever of this climate that were characterized by this eruption.

We will first notice the climatic influences of the counties bordering on the Muscle Shoals in reference to the etiology of malarious diseases of those counties.

And first, we maintain that there is such an entity as malaria, though chemistry may not have been able to detect its existence. Whatever its nature and composition may be, we are satisfied it is the product of vegetable or animal decomposition—one or both, acting as predisposing causes of malarious diseases, which modify nearly all febrile diseases of that section. For

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instance, dysentery, pneumonia, or almost any febrile disease may be modified by malarious influences, and require an anti-periodic remedy.

We have observed that when the latter summer and early fall months have been very dry, the counties on the Muscle Shoals suffer very much from chills and bilious fever—that when a pretty constant wind blows from the south, those living on the north side of the Shoals suffer a great deal from chills, while those on the south side enjoy a comparative exemption, and *vice versa*, so that the direction of the winds has much to do as causative influences of the diseases of this section. On the Muscle Shoals and large tributaries of the river, where there is in protracted dry weather of the summer and fall months, a large sheet of rocks and earth exposed, so that rapid decomposition ensues, both vegetable and animal, thus intensifying the usual causes of malarious diseases. There is on those shoals and large tributaries a great deal of moss and other aquatic plants which, when exposed to the scorching sun, wither and die, and rapid decomposition ensues. When, however, these streams are kept washed out in the summer and early fall months, these localities have but little chills, while the barren sections that are interspersed with rivulets and low flat marshes, are quite subject to malarious diseases, because these locations are not washed out, and great quantities of vegetable and animal matters are undergoing decomposition. We will not stop to investigate the hypothetical position of animalcules and microscopic plants as causes of chills, but shall be content with causes that are more tangible to our mind—namely, that the predisposing causes of chills and all grades of bilious fever, are decaying organic matters, whether vegetable or animal; that the exciting causes are, whatever enervates nervous function and deteriorates the blood, such as retained excretions, especially those of the skin and liver, and lastly enervating influences of the excito-thermal nerves—whether these causes be physical or mental. When we contemplate for a moment the anatomy and function of important organs of the system, we need not be surprised that the great depurating functions are so frequently the exciting cause of disease. Physiologists inform us that the skin of an ordinary sized man embraces a surface of about twenty-four hundred square inches, the mucous membrane of the alimentary canal about fourteen hundred square inches; that the amount of matter of various kinds that find ingress and egress through the system, in a year, is nearly one ton; that this vast amount of materials is modified under the law of generic nerve force. This being so, we need not seek hypothetical causes of chills, nor need we have confidence in the various nostrums that are vended as specifics. Proper hygienic, neurotic, and hæmatic restoratives constitute the only rational treatment. These remedies are curative, not through any specific influence, but simply because they restore enervated function.

We know that some authors of no mean authority contend that because chemists have been unable to detect the existence of malaria

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as an entity, that there is no such a thing as malaria. This negative way of reasoning would prove the non-existence of the contagions of nearly all varieties. As a matter of observation, we have been able to predict that those who live in houses built of green timber, and adjacent to large surfaces which have been fallowed up, so as to expose much animal and vegetable matter, are almost sure to have some form of bilious diseases in the summer or autumn.

In reference to the topography of this section, I have observed that those who live near to stagnant water, that is subject to have the soil exposed to the sun, are quite subject to chills; and those whose residence is in or near a deep hollow leading to the river, rarely ever escape chills and fever; those hollows seeming to be flues that conduct the malaria. And those who live on the margin of the river, where the water is still and smooth, are not near as apt to have chills as those who live near the rapids, where there is constant evaporation going on, thus impregnating the surrounding air.

Such is the influence of the causes of periodical diseases, whether of malarious origin or not, that when the system is once morbidly impressed by the poison, that the whole nervous and vascular systems become functionally diseased to such a degree that organic disease frequently results. The great nerve centres soon become so impaired and enervated that hyperæmia ensues—styled by some author's neuramia. This congested condition of the great nerve centres ultimately leads to serious lesions of nutrition—a condition called leucocythemia or white cell condition of the blood.

If I were an advocate of the animalcular origin of periodic fevers, I would be tempted to account for the return of the chills in the spring, in those who have had them in the autumn, by the presence of a fresh crop of animalcules in the spring, in harmony with Nature's prolific laws; but as I do not embrace that hypothesis, with regard to the etiology of chills, I account for their return in the spring on the assumption that the cause has been held in abeyance by hygienic influences of the winter; and that the return of warm weather in the early spring has somewhat weakened the vital powers of resistance, and inattention on the part of the patient to the sudden vicissitudes of weather, weakens the function of the excito-thermal nerves.

We sometimes find in malarious locations typhoid fever associated with bilious fever. This association I have always found to occur in malarious sections, when typhoid happened to be prevailing at the same time. In such a complication, the bilious type of the disease may be well marked, and after convalescence seems to have set in, the usual symptoms of typhoid fever will be well developed in the course of twenty-four or forty-eight hours.

The most frequent exciting causes that I have observed of chills, are the sudden vicissitudes of weather, and inattention to proper clothing. The system demands tonics, suitable nutriment, neurotic and hæmatic restoratives.

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REPORT ON THE TOPOGRAPHY, GEOLOGY, CLIMATOLOGY, AND DISEASES OF MADISON COUNTY.

By GEORGE D. NORRIS, A.M., M. D., of Huntsville.

Topography.—Madison county is situated in the north part of Alabama, bordering on the State of Tennessee, and between the parallels of 34° 30′ and 35° north latitude, and 9° and 10° longitude west from Washington. Its area is 850 square miles. It is intersected by Flint and Paint Rock rivers, affluents of the Tennessee, which forms the southern boundary. The surface is mountainous and hilly, soil very fertile and extensively cultivated. This county abounds in beautiful rivers and creeks, their source from the ridge between the waters of Elk and Flint rivers affording abundant water power for factories and mills.

The population, according to the last census, is 31,000 inhabitants. The peculiar features of this county are the little areas of table lands upon the tops of the mountains, which are capped by sandstone. When this is removed they sink nearly to the level of the valleys. The mineral springs of the county are numerous; Gerons in the north part, Black Sulphur, as Johnson's wells, near Meridianville, and Chalybeate on the mountains, of which I have not the analysis. The forests abound in fine timber, such as the white, red, black, Spanish, willow, post and chestnut oaks. These are sub-divided into over and under-cup. The stately liriodendron tulipifera, one hundred feet without a limb, and ten feet in diameter, chestnuts equally as large; the elms in variety, the gums, hickory, maples, especially sugar, black and white walnuts, wild cherry, beech, cucumber, black locust, lynn, sycamore, cedar, dogwood, paw-paw, while enormous grape-vines rear their stems to the tops of the loftiest trees; all evince the fertility of the soil. Its streams abound in fish, and its forests and fields with deer, wild turkeys, squirrels, partridges, and pigeons, while the swamps are alive with ducks, plovers, snipe and woodcocks. Its mountains have coal of excellent quality, and the anticlinal ridges of the Devo-

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nian rocks will no doubt yield, in time, ample supplies of kerosene, when its deep caverns are tapped by the drill of the searcher. The principal mountains are—Monte Sano, near Huntsville, 1,565 feet above tide water, and Capshan's mountain in the western part of the county, which is but a counterpart of the Cumberland mountains, isolated and alone. The Memphis and Charleston Railroad passes nearly through the centre of the county, while another road is in contemplation connecting Tennessee with Alabama. The city of Huntsville, the most beautiful city in the world, stands in a valley, nearly surrounded by spurs of the Cumberland mountains, that run down right and left to Tennessee river; set as a diamond within emeralds, and, seen from the top of Monte Sano, it presents the most enchanting view. Its men are noted for their intellectuality and hospitality, and its women for their beauty and refinement. Huntsville has an elevation of 612 feet above tide water; population between 5,000 and 6,000. The one great feature of Huntsville is its immense spring, which bursting forth from its hard ~~chalky~~ Cherty rocks, not only supplies the city with abundance of pure water, but vents a stream at the rate of 825 cubic feet per minute.

The towns of the county are—New Market, 809 feet above tide water, Maysville, Vienna, Triana, Madison, 573 feet above tide water, Brownsboro 631, Cluttsville, Meridianville and Hazlegreen.

This county was honored by the residence of some of the brightest lights of our profession, viz.: Drs. Thomas Fearne, Alexander Erskine, John Y. Bassett, Dabney Wharton, F. H. Newman, and L. B. Sheffy. Sleeping in the ground, dead to this earth, but alive in our hearts, and awake in our thoughts, and a few workers in the profession are left, their heads whitening for the grave, yet a noble band of young men will fill their places, and reflect great honor upon this county in the rapid advancement of medication.

The geology of Madison county is peculiarly interesting. The mountains and knobs scattered over the county are not the result of elevation, but of the depression of the rest of the surrounding country by denudation, as is evident from the remarkable terraces extending around the sides of the mountians. They are everywhere present, and result from the unequal washing of strata composing said mountains; many of the limestones are highly argillaceous and subject to disintegration; and if an underlying bed be less destructible, it remains to form a terrace, whilst the upper one is washed away. These terraces are frequently ten or twelve feet wide, and in length may be traced around the mountain. The bed of sandstone above is, in many places, out-cropping in vertical ledges that expose at their base a thin seam of coal. The strata may be designated as follows: ~~Chalky~~ limestone, magnesian limestone, ordinary limestone, containing the fossil archimedes in abundance, a stratum of yellow limestone, a thick bed of limestone, sandstone, with impressions of coal plants. We have then silurian and devonian rocks, the latter represented by the black slate or more properly

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shale, which is found on all the principal streams that flow from the north into the Tennessee river, between Flint river in Madison and Shoal creek in Lauderdale county. This rock, which is quite uniform in lithological character, is composed of dark colored argillaceous slates, fully saturated with kerosene, so much so as to burn with a flame. It varies in thickness from twenty to sixty feet; only one fossil has as yet been found in this rock, a small lingula. Encrinital limestone is also abundant; spirifer striatus is found near Huntsville in a thick stratum of coarse chrystalline limestone, above this is a bed abounding in peutremites florealis and pyriformis, with the remains of fishes, amongst the latter, teeth of psammodus and cladodus, are conspicuous. The late Dr. Newman, of Huntsville, discovered a species which was called after him, Cladodus Newmani, as well as Cladodus Magnificus. Impressions of fossil plants of the coal period are abundant in a bed of sandstone near Huntsville. The thickness of the carboniferous rocks of this county is estimated at 1,500 feet. Beds of magnesian and hydraulic limestone and strata of limestone having an oolitic structure, are found forming a conspicuous part of the rocks of the mountains of Madison.

Analysis of carboniferous limestone, Huntsville, spec. gravity =2,676 dissolves readily in muriatic acid.

Carbonate Lime	64.03
Carbonate Magnesia	1.76
Carbonate Protoxide of Iron	2.03
Alumina	Trace
Phosphoric Acid	"
Fine Siliceous Clay (insoluble)	11.86
Quartz Grains (insoluble)	20.05
	99.73

Whitesburg, sp. grav.=2.702, dissolves easily in muriatic acid.

Carbonate of Lime	92.17
Carbonate Magnesia	61
Carbonate Protoxide of Iron	97
Alumina	32
Phosphoric Acid	Trace
Siliceous Clay (insoluble)	5.75
	99.64

Climatology.—Mean annual temperature—Monte Sano, 54° 5′; Valley of the Tennessee, 59° 7′. Temperature for several years—Mean, 58° 88′. Mean temperature of different seasons for several years—Winter, 53° 44′; spring, 64° 76′; summer, 80° 46′; autumn, 68° 15′. Mean temperature of warmest month, 82° 93′. Mean temperature of coldest month, 50° 69′. Temperature of the spring on Monte Sano, 55° 6′; air, 80° 6′—July. Temperature of the spring at Huntsville, 60° 8′; air, 80° 6′—July. Mean fall of rain in 1871,

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4.56 inches. Snow. Unfortunately, a series of observations for many years was mislaid, therefore cannot give as full a table as desired.

We have here a mild and equable temperature, which admits of out-door labor nearly every day in the year. The snow fall is but slight, and does not remain for any considerable time upon the ground. We have had more snow this year by far than any year since 1843. The heat of summer is tempered by cool breezes from the mountains, they forming points of condensation which gives us rain in due season, and having no excessive drouths. Our winter crops of vegetables, such as cabbage, kale, onions, turnips, celery, salsify, carrots, beets, parsnips, lettuce and spinach remain in the ground all winter unhurt. Our gardens are planted early, often in January, in peas; and plants raised in frames are set in the open ground as early as March. No lands in the world will yield more kindly to the influences of manuring and skilful cultivation. The health of this beautiful county is most unquestionable. With regard to the diversity of the agricultural products of this county, no other country on the globe can be compared to it, except with those few localities along mountain terraces, where the products are controlled by altitude instead of latitude. All the berries grow in profusion, the strawberry in particular, while the roadsides and woods abound in blackberries and grapes. Apples, pears, peaches, plums, damsons and apricots grow in profusion, while the grape can be cultivated with the greatest success, making most excellent wine. The woods are full of the luscious Muscadine, and its congener, the Scuppernong, spreads its branches from year to year, requiring no cutting, no pruning, and yielding enormously—one single vine, in time, covering an acre of ground.

This county is the home of the peach, growing on the road sides, and for variety, size and excellence cannot be surpassed. They bear in three years from the seed, and without cultivation.

The grasses, Clover, Herds, Timothy, Blue, Orchard, and Crab, a native variety, grow in profusion and yield large crops.

Cotton is the main staple product, and is celebrated in the markets of the world as uplands. Corn, wheat, rye, oats, Irish and sweet potatoes, peanuts, castor oil bean, sorghum, broom corn, pumpkin, squash, sage, hops, willow, *calamus aromaticus*, horse radish, mustard, pepper and sumac grow in large quantities, with but little care. Figs need only the slightest protection to yield large crops of fruit. Tobacco is indigenous and successfully grown. Rice is also planted, and for home use yields ample crops. This county is admirably adapted for raising stock, particularly sheep and cattle.

Diseases.—Malarial, so-called, are the principal, sometimes in the malignant form. Enteric has its cycles; from 1832 to 1842 malarial prevailed; then the type was changed, and for several years enteric was the most common, completely masking the malarial type. In

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the latter part of 1832 we had intermittent and remittent fevers, the latter commonly but erroneously called bilious, for it was only a lesion produced from malaria, and intermittents were equally so. Malignant intermittents and remittents were frequent in some seasons, called cold plague. At that period these diseases were treated by the heroic administration of sixty grains calomel with gills of Cook's pills, the results of the teachings of the school at Lexington, Ky. Quinine was but little used, and then only in the form of Sappington's pills, and a host of similar ones followed, all having for their base quinine. I believe I was the first person using quinine itself alone in the remittent forms of fever at that early day. Dr. Thomas Fearne was the first to use it in twenty grain doses in a form of pneumonia with perfect success. The pathology of the so-called malarial fevers is but little understood, and I am inclined to the opinion that those diseases are the products of what might be termed entozoic corpuscles in the blood, produced by the inhalation of microscopic fomites, which formations are absolutely neutralized by quinine. It may be said, then, how do you account for the recurrence of intermittents? By the impressions produced upon the nervous centres, from fibres conveying to the brain a sense of general sensation, independent of the sense of touch, which after the cause is removed is kept up from habit, as in the loss of a limb, yet the missing member can still be felt. All of our exanthems could be attributed to the same diseased state of the blood—enteric fever, cholera, small pox, &c., &c., produced by different forms of microscopic fomites. The time will come when these causes can be demonstrated, and consequently the pests of the profession made to succumb to enlightened and successful prophylaxy and treatment.

Follicular enteritis, commonly called typhoid fever, first made its appearance (so far as my observation extended) in the fall of 1842, and its type was of the heretofore prevailing fevers, and was treated as such with quinine, but without any effect; and consequently the quinine was said to be adulterated; and the usual treatment of calomel and Cook's pills proved very fatal, and many died before the disease was fully understood. Typhoid pneumonia was also prevalent during the progress of the disease, and proved fatal in many cases. Dysentery in epidemic form prevailed in 1856-'57—very fatal.

The various diseases incident to childhood prevailed extensively, such as mumps, scarlatina, measles, whooping cough.

In some years diptheria was very fatal; all treatment seemed useless, and many lives were lost.

A few cases of cholera appeared in 1851. It was not endemic, but came from Tennessee.

Small pox first appeared in 1863-'64, brought into the county by negroes who came from the Federal army; also in 1866. One case was of the melanotic form, in an aged lady—fatal. In eighty cases

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in 1863–'64 only four died from the disease; in 1866 none. Most of the cases were of the confluent form, and were severe but amenable to treatment—no doubt from the isolation of the patients and our pure air, aided by the paucity of diet at that time from the scarceness of food.

There was one remarkable fact exhibited during the progress of this disease. In one family where it prevailed extensively it was remarkably mild, said to be so from the constant use of an infusion of black snakeroot, rattleweed, or more properly, *Cimicifuga.* In the same family were several children (whose fathers were in the army), whom I attempted to vaccinate, but was unsuccessful, and was told the reason—because they made constant use of the infusion of *Cimicifuga.* They did not take the small pox, and after some months, when all symptoms of small pox had ceased, and the children had quit using the infusion, I vaccinated them with perfect success. These were the only cases observed, but would undoubtedly use the infusion of *Cimicifuga* should small pox prevail again.

Epidemic erysipelas was very prevalent in some years, but yielded to treatment.

In 1832 the free use of the lancet was the rule and not the exception. In 1842 it was dropped, and this great remedy is now almost forgotten. About 1832 Thompsonianism was rife in the land, then gradually was absorbed in Eclecticism, and now Homœopathy sways the multitude with its infinitesimals. What will come next I know not, but no doubt some new form of cure, while the drug stores and newspapers (secular and religious) teem with nostrums for the cure of every ailment man is heir to. The silent, painstaking regular plods along his way, doing all the good he can from an enlightened and philosophical standpoint, unheeded, unnoticed and unknown, struggling for a mere subsistence, yet proudly conscious of right, while the multitude heaps up riches upon the Northern vender.

The lancet came into disuse because the type of fever was changed. The Thompsonian, with his axiom, "Heat is life, and cold is death," put a stop to the excessive use of mercury, while the Eclectics use concentrated essences, and the Homœopathists, with their dilutions attenuated to non-comprehension, gave an impulse to minute doses of remedies. These checks were necessary to a healthful appreciation of the difficulties attending the knowledge of such an intricate structure as man, with his protean diseases, appetites and habits, until at length we are taught that the more we study and practice, the more sensible we become of our ignorance.

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REPORT ON THE SURGERY OF MADISON COUNTY.

By J. J. DEMENT, M. D., of Huntsville.

Having accepted the appointment from the President of the Medical Association of the State of Alabama to report on Surgery from Madison county to its next annual session, I herewith respectfully beg leave to submit the following cases:

Compound Dislocation of Elbow—Necrosis of Humerus—Excision—Recovery.—By Fleming Jordan, M. D., of Maysville.—Miss Catharine C., aged eight years, was thrown from her horse on the 2d of December, 1869, producing dislocation of the elbow joint. The inferior extremity of the humerus was forced obliquely downwards through the integuments, and through her dress. A physician was called immediately. Before he arrived, the uncle of the girl had, by extension and counter-extension, reduced the dislocated bone to its normal position. The physician, on his arrival, did not make any special examination of the case, but pronounced the reduction and dressings proper. The splints were applied with the arm in an extended position, and being very thin and flexible, gave way to the weight of the arm. On the 20th December the inferior extremity of the humerus made its appearance through the integuments, two inches above the first opening. At this stage of the case I was called in, on the 24th of December, to amputate the arm. On careful examination of the case, I found the inferior extremity of the humerus of the left arm projecting through the integuments at the opening last made and extending one inch above the surface of the arm, and of a dark brown color, and destitute of any periosteum. The patient, in other respects, was in good health. In place of amputating the arm, I determined to perform the operation of resecting the end of the humerus, and to establish, if possible, an artificial joint. The patient was placed upon the table and properly anæsthetized. By a free incision both of the openings were laid into one, and with a fine saw I removed one inch of the lower extremity of the humerus, with the condyles. The arm was then placed in an angular splint and the dressings applied. At the end of three weeks I removed the splints. The wound had nearly

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healed. I used gentle extension and flexion, and placed the arm in a sling, with instructions to the nurse to use gentle motion daily. I discovered that flexion and extension improved at every examination. I then commenced pronation and supination, which gradually improved. This patient regained the use of her arm much more rapidly than I expected, and in six months the artificial joint was fully established. She has now flexion and extension, pronation and supination, as perfectly as in the right arm, and has equal strength and use of the left as the right. The left arm is shorter than the right, but not to be noticed or known only by measurement. This case is reported to show that artificial joints can, and ought to be established when the surgeon can accomplish so important and so desirable an object to the unfortunate sufferer.

Incised Wound of Abdomen—Protrusion of Intestines—Recovery.—By GEO. D. NORRIS, M. D., of New Market.—William Hamilton was cut with a knife in the hypogastric region, right side, incision about an inch, letting out almost all the small intestines. Found great difficulty in replacing them. Enlarged incision half an inch, and returned them after considerable difficulty by gentle taxis. No injury to bowels, but much hæmorrhage. Secured wound by four interrupted sutures; dressed with thin plate of lead and usual bandage. On the tenth day removed sutures. Wound healed by first intention. For the first few days there was much hæmorrhage, mostly venous. A small branch of the epigastric was cut, but required no ligature. Cold water, with tincture of arnica, was used constantly. His bowels were not moved for ten days, after which he had abundant discharges.

Was also cut in the back about three inches, completely severing inferior angle of scapula from the body, upward and underneath. Secured by several sutures. Venous hæmorrhage. He was also wounded in left knee, almost opening the joint. This man was large and fleshy, and in perfect health; was well in thirty days. Dr. E. T. Taliaferro afforded valuable assistance in this case.

The following are reported by L. D. Carter, M. D., of Huntsville:

Case I.—*Comminution of Hand and Forearm—Amputation—Recovery.*—Frank Robinson, negro, aged eighteen years, well grown, stout, muscular, and full habit. Was brought to my office at ten o'clock, A. M., June 28th, 1871, with left hand and forearm completely comminuted to within three inches of elbow—crushed under the trucks of a locomotive at Huntsville. Hæmorrhage had ceased. Slight reaction from shock. Ordered a mixture of one grain of sulphate of morphia and two ounces of spirits to be taken at once. Supported the limb by a loose bandage from the shoulder, and sent him to his quarters, telling him I would amputate some time during the morning.

Six, A. M.—Had reacted, and went kindly under chloroform. Circular amputation two and a half inches below elbow. As many as six arteries were ligated and parts closed by sutures and adhesive

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strips. Was summoned to see him at eight, A. M. Found the stump bleeding freely. Opened it and secured an additional artery. Redressed as before, supporting it by roller bandage, applied loosely. Ordered cold water dressings. Rested well at night without anodyne.

June 29th, at ten, A. M., he was doing well. Ordered the stump to be kept well moistened with a solution of carbolic acid and water.

July 1st.—He was able to come to my office. The stump had united to within an inch of its entire extent. Removed adhesive strips. Dressing continued.

July 7th.—He was sent to county poorhouse, under charge of Dr. Frank Rice. Saw him a few days afterwards; the stump was entirely healed.

I was assisted by Drs. J. D. Carter and J. D. Humphrey.

Case II.—*Extensive Wound of Face.*—Jack Kelly, colored, aged forty years, field hand, was accidentally wounded March 9th, 1872, in the following manner: A negro man, engaged in a street fight, struck at his antagonist with two sections of a stove pipe; the distal section was thrown off by the force of the blow, passing over the head of his antagonist, and striking Kelly in the face endwise, inflicting an ugly and extensive wound, cutting the integuments of the face on the upper margin of the cheek bone from about an inch below the outer canthus of the right eye to the bridge of the nose. The lateral fibro-cartilage, the cartilage of the nasal septum down through the upper lip by the margin of the left ala and through the lower lip about one inch. The wound extended through the nasal fossa, fracturing the hard palate and dividing the soft parts of the roof of the mouth. The tissues and *alveola* process were divided between the first and second bicuspid above, and the crown of the second bicuspid below was broken off. The skin was brought together by sutures and adhesive strips, taking the precaution to engage the mucus membrane just below and at the margin of the left ala. March 14th, eleven, A. M., bowels confined, slight traumatic fever. Ordered one ounce castor oil. March 16th, eleven A. M., free catharsis from castor oil. No fever; some fetor from excretions from mouth. Ordered a solution of carbolic acid and water, to be used as a mouth wash every three hours. March 18th, wound completely united; removed sutures, and discharged patient.

The following are reported by H. W. Bassett, M. D., of Huntsville:

Case I.—*Comminution of Foot and Leg—Amputation—Recovery.*—On the 26th September, 1869, was called to see Solomon Combs, a brakesman in the employment of the Memphis and Charleston Railroad. Found him suffering very much with his leg and foot, which had been crushed by the wheel of a car, which he had attempted to enter while in motion. The whole foot and leg was mashed into a jelly. He had not recovered from the shock at eleven, A. M. I administered half grain sulphate morphia, and sent for a consulting physician and my instruments. In about half hour Dr. A. R.

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Erskine arrived, and we determined to amputate the leg at the upper third. Chloroform was administered, and the amputation performed after the circular method. The case did well, and was discharged on the 30th October.

Case II.—*Vascular Vegetations in Anus—Ligation and Excision—Recovery.*—Mr. H——, a merchant from one of the small towns up the Memphis and Charleston Railroad, called me to see him in April, 1870. Upon examination I found the anus filled with vascular vegetations, identical in formation with those seen surrounding the glans penis of persons suffering from gonorrhœa. The mass formed a tumor about the size of a small orange and caused the patient great annoyance, preventing his attention to business, besides being painful. The history of this case is obscure. During the late war he contracted a venereal disease, which he believed to be, and the surgeon told him was syphilis, from which he recovered. Had no sore throat, no eruption of any kind, that he remembered. Upon close examination I could find no induration of the inguinal or post cervical glands and no eruptions on the body. I therefore concluded that he must have had chancroid, and determined to excise the tumors, which I did, after dilating the sphincter ani, with my thumbs. The two largest tumors I ligated with carbolised ligatures, which came away in three or four days, and he was allowed to return home. In about two or three weeks he returned, and on examination I found that other vegetations had sprung from the base of the old ones which had been ligated. I cut these away with scissors, removing the mucus membrane from which they grew. I stuffed the lower part of the rectum with lint saturated with *phenol sodique.* From this time there has been no return. I have seen the patient within the last six months, and he has recovered. I gave the patient no constitutional treatment, believing the disease to be local. There was no hæmorrhage of any consequence.

Case III.—*Laceration of Toes—Mortification—Amputation—Recovery.*—On June 1st, 1870, I was called to see Dan Wilson, negro, a brakesman on a freight train on the Memphis and Charleston Railroad. He states that in the performance of his duty the wheel of a car passed over his toes, cutting off two, the little toe and the one next to it, and bruising all the others severely. He was attended by a medical gentleman, and sent on to Huntsville. I was called in to stop hæmorrhage, which I succeeded in doing. In four or five days I was called in again, found the toes mortified, and determined to amputate, which I did just above the phalangial articulation. The only thing remarkable in this case was the singular effect of chloroform upon him; instead of producing anæsthesia it threw him into the most violent tetaniform convulsions, opisthotonos, rigidity of the muscles of the thorax, abdomen and extremities, causing the most violent pain. I suspended the chloroform, desisted and postponed the operation until the following day, when I attempted to put him under the influence of Squibbs' chloroform,

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with like result. I then called in some negro men, and operated on him without anæsthesia. He recovered, did well, and returned to duty with a very tolerable foot. I had with me on this occasion Drs. Shelby, Erskine and Green, who rendered me material aid.

Case IV.—*Crushed Leg and Thigh—Great Shock—Amputation—Death.*—August 12th I was called, at midnight, to see Wm. H——. Railroad accident. He fell asleep on the track. The train came while he was sleeping. A car wheel passed over his right leg and thigh, crushing it frightfully. When I arrived he had not recovered from shock. I called in Drs. Binford, Green and Dement, and amputated at the middle of the upper third, after first putting the patient under the influence of chloroform. He never recovered from shock, but died at six o'clock the next morning.

Case V.—*Elongation of Cervix Uteri—Amputation—Recovery.*—Mrs. K——, wife of a mechanic, requested me to see her June 28th, 1871. Found her emaciated, with headache, pain in the back and down the limbs, melancholy, utterly unfit to perform any of the duties of her station—as much, she said, from disinclination and want of interest as from bodily pain. She was in fact in a very miserable condition. History of the case is that she is in her thirty-sixth year; blue eyes and fair complexion; menstruated in her fifteenth year; was regular in her menstruation, as a general thing, all her life; married in her nineteenth year; first child was born fourteen months after marriage; has had eight children; suffered some from uterine derangement after birth of first child, but not enough to call in advice. About a year before I saw her she began to fail in health, and noticed that she had what her medical advisor said was prolapsus, for which she received treatment.

Upon making digital examination, I found a tumor just without the ostium vaginæ, which at first I thought was a polypus, but upon more careful examination I discovered it was the cervix uteri. The body of the womb was slightly retroverted, and both the super and infra vaginal cervix was elongated. The cervix was not larger than the thumb, and had a hard, cord-like feel up to the body. I determined to amputate the neck after the method of Dr. Marion Sims. I ordered a full dose of castor oil, and called again on the 30th; and in the presence of Drs. Binford and Green, after administering chloroform, I amputated the neck just where it comes through the floor of the vagina. There was little or no hæmorrhage. I did not cover the stump with the mucus membrane, because I hoped that the consequent suppuration would have a beneficial effect upon the neck above the vagina. I dressed the wound with tampon of glycerine and carbolic acid. She did well, and suffered from no inflammatory reaction until the 5th July, when she had a slight sense of tension in the hypogastrium. Ordered ten grains Dover powders. On the 6th, slight fever and restless; gave dose of oil and ordered hot fomentations. On the 7th had decided chill, followed by considerable fever—pulse 110. Suspected cellulitis, but

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the floor of the pelvis was soft and I could find no hard lump anywhere around the wound; ordered tincture aconite and continued fomentations. The aconite controlled the febrile movement and restlessness, and on the 9th she had a slight dysentery. This I conceived to be the result of pelvic cellulitis and opening of the abcess into the rectum. I treated her with quinine and iron, and in about six weeks discharged her. She is now able to do her work about home, walk without pain, her health is better, and she says she is well. She informs me that before the operation it required the strongest moral effort to drive off the desire to commit suicide. She has declined to have any further examination made, so I am unable to say what the condition of the uterus is, and can only judge from her appearance and her own report.

The following cases have occurred under the observation of your Reporter:

Case I.—Andrew B——, aged thirty-one years, while a soldier in the Confederate army, received a pistol shot in the right thigh, fracturing the femur about the junction of the middle and lower third. He recovered sufficiently to attend to his usual business, that of farming, until the spring of 1871, when he came under my observation. I then found two fistulous openings in the integuments, one over the seat of the original fracture, communicating with diseased bone beneath, the other four inches higher up the thigh, which could not be traced to the bone. An operation for the removal of the dead bone was at once determined on. With valuable assistance of Drs. Erskine, Carter and Baldridge, the patient being under the influence of chloroform, an incision was made five inches in length, over the seat of the old fracture, down to the bone, and upon introducing my finger I found three pieces of the shaft of the femur, which had been broken off at the original injury, lying loose, in contact with the bone at the seat of fracture, the largest of which was about an inch square, and though having lain in a suppurating cavity for seven years, were unaffected by the action of the discharges. The femur was healthy. The parts were brought together by suture and adhesive strips, and a roller bandage applied. Union by first intention was obtained throughout the whole extent of the wound, the upper fistulous opening serving as a drain from the bottom of the cavity.

Case II.—*Amputation of Thigh for Injury to Knee, followed by Caries of Bone—Recovery.*—Lewis B——, aged thirty-five years, mulatto, carpenter, came under my care in the summer of 1870. Two months previously he received a cut into the left knee joint, with an adze. It was closed by adhesive strips and cold water dressing ordered. High inflammatory action supervened, attended with great pain, swelling and fever. Large quantities of pus were discharged. I first saw him two months after the injury and found quite a number of fistulous openings, communicating with the joint. There were two others leading into sinuses which extended high up

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into the muscles of the thigh, discharging a thin ichorous fluid. The cartilages of the joint had been carried away, leaving the ends of the bones roughened. There was extreme emaciation, pulse 136, profuse night sweats, &c. The only hope seemed to be in immediate amputation. Two ounces of brandy were given him, and chloroform being administered, the operation was performed at the lower third by the circular method. The stump was left open and allowed to heal by granulation. Brandy, beef tea, chicken broth, quinine and iron were given him, and he steadily improved. The sinuses in the thigh, which extended far above the point of amputation, healed, without any special treatment. Drs. Binford, Carter and Pynchon, of this city, assisted me in the operation, and aided me with their advice throughout the subsequent treatment.

Case III.—*Amputation of Leg for Abscess of Ankle Joint, resulting in Caries of Bone—Recovery.*—Mr. B——, aged twenty-nine years, a grocer, came under my care in the fall of 1870. He then had extensive inflammation in and around the left ankle joint. There was great pain and swelling, extending as high as the knee. He had contracted gonorrhœa four weeks previously, which was successfully treated by another medical gentleman, who relieved the attack in ten days, when this condition of the ankle joint supervened and was regarded by his physician as gonorrhœal rheumatism. Upon careful examination, fluctuation was detected on the outer side of the ankle. A free outlet was given to the pent up pus, but very little relief followed, as other abscesses were formed in rapid succession, until the patient was being exhausted from severe suffering and profuse discharges. In consultation with Doctors Binford and Carter amputation of the leg was agreed upon, which was done, just below the knee, by the flap method—the patient being under the influence of chloroform. The stump was closed by suture and strips of adhesive plaster, and carbolic acid and cold water dressings applied. Union by first intention was obtained in the entire extent of the stump. He was supported by the free use of whisky and quinine, and nourishing diet, and his general health rapidly improved.

Case IV.—During the night of March 3d, 1870, J. H. C——, aged thirty-five years, in good health, while in the act of turning himself in bed, received the prick of a needle in the dorsal surface of his right foot. Finding one-half of the needle in the bed-clothes, it was believed that the other half was in the foot. I saw him the next morning with Dr. Binford, and we determined to extract it. The patient insisted on taking chloroform, which was given him, and the needle extracted by cutting down upon it. We enjoined rest in bed for some days, and the application of cold water. He got into his buggy, however, and rode into the country; his horse became frightened, and in leaping from the buggy he received a severe sprain of the ankle of the same limb, from which he was suffering intensely when I was called to see him again in the afternoon. A

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full anodyne was administered, the foot elevated, and cold water kept constantly to the ankle. He soon became quiet.

Ten days afterwards he complained of pain and tenderness in the course of the veins of the left leg; the skin over them was red. Leeches were at once applied, followed by warm fomentations and tincture iodine. The inflammation rapidly extended up the limb to midway the thigh, attended with hot skin, thirst, rapid pulse, restlessness and delirium. Five days afterwards a large collection of pus was formed in the poptileal region and above the ankle, which was given free outlet. Very soon the constitutional symptoms began to subside, and we thought our patient was rapidly improving. He soon, however, complained again of the right ankle, which became hot and swollen, and in three days pus in large quantities was collected in and around the joint, which was let out by free incisions. A large abscess formed on the left arm, without pain or tenderness. All the abscesses continued to discharge large quantities of pus for four weeks, when all of them ceased, except at the right ankle. In the meantime a diarrhœa had set in, which, with the discharges from the abscesses, was reducing the patient rapidly. Assistant Surgeons Jessup and Blackwood, U. S. A., who were on duty at this post, were requested to attend the case with us. Active supporting treatment, consisting of brandy, beef tea, eggs, quinine and iron, was kept up all the time. The ankle joint continued to discharge and was painful still. Dr. Fleming Jordan was called in, and on consultation it was determined to amputate the leg, the bones of the ankle having been found denuded of the cartilaginous surfaces; and no new abscesses having formed for several weeks, it was hoped after amputation his general condition would improve, and such was the case for a week after the operation. About this time he complained of pain in the right illiac region, which continued to increase until an abscess pointed below Pauport's ligament, which, upon being opened, discharged an immense quantity of fœtid pus. He sank gradually, and died June 11th. During the amputation chloroform was used.

Case V.—G. J——, negress, aged twenty-six years—unmarried—had, for several years, been suffering from painful menstruation, back-ache, &c. Suspecting some uterine trouble, a vaginal examination was instituted. The os uteri was found protruding through the vulva; the cervix could be traced for an inch and a half within the vagina; the fundus retroverted; the uterine sound passed three and three-quarter inches. I requested Dr. Binford to see her with me on the following day. The patient was then placed in Dr. Sims' left lateral semi-prone position, and one of his specula introduced. The cervix was seized with forceps and drawn into a Fahnstock's instrument for excising tonsils, and an effort made to amputate it. In this we failed, the tissues being so firm that the instrument made no impression on them, but holding it firmly with the instrument, and drawing it downward, the cervix was amputated with a bistoury,

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to the extent of one inch. Hemorrhage was considerable, and continued for several hours, though cold water, alum-water, and Mononsel's solution were freely used. Torsion was finally applied to two vessels, which promptly arrested the bleeding. The mucous membrane was then brought over the stump with four silver sutures, a point being left open, corresponding with the cervical canal. On the seventh day the sutures were removed, and the parts were found to have united. Examination one month afterward, the sound passed two and a half inches. The fundus was in its normal position. She had menstruated once, easily, and she expressed herself as feeling better than she had for several years.

Case VI.—Mrs. B——, aged twenty-six years, in giving birth to her first child, had a rupture of the perineum, down to but not involving the sphincter ani. Four hours after the accident, she was placed in the position for lithrotomy. The raw surfaces were carefully cleansed of blood and brought together with three silver sutures. Her nurse was directed to inject the vagina twice a day with tepid water. The catheter was used as often as required, and the patient enjoined to lie on her side. The sutures were removed on the eighth day, and union found to be perfect.

Case VII.—Mrs. H——, aged nineteen years, in giving birth to her first child, also had rupture of the perineum, to about the same extent as the above case. The same treatment was instituted, except the introduction of the catheter; she living several miles in the country, I was unable to attend to it in person; the use of the instrument was entrusted to the nurse, who I found on my return had been unable to introduce it. On the ninth day the sutures were removed, and the parts were found to be completely united.

Case VIII.—On the 4th March, 1871, my friend, Dr. J. S. Macon, of this county, brought to my office J. R., a youth of sixteen years of age, with epuloid tumor, involving the gums of six teeth of the right superior maxilla. It was near the size of a hen's egg, and presented a dark, purplish appearance. We requested several medical gentlemen to see it, who agreed with us that an operation for its removal should be performed, as it had continued to increase rapidly, after Dr. Macon had extracted three teeth, two weeks before. An incision was made through the lip to the nasal septum, thence along the base of the nose to its side, thence up the side to near the inner canthus of the eye. The flap thus made was freely dissected up, laying the tumor bare. A small saw was passed through the bone, up to the lower margin of the molar bone, then with the use of bone forceps, the attachments in the median line to its fellow, and the nasal process were each divided, when the tumor was easily removed, all the diseased bone was then carefully removed with gnawing forceps, and the lips of the wound brought together with eight twisted sutures. The chasm in the bone was filled with lint, saturated with a solution of carbolic acid. The pins were removed on the third day, leaving the thread of silk, which had been passed

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around them, supporting the lips of the wound. The parts united by first intention throughout their whole extent. There was considerable sinking in of the lip over the site of the tumor, which has since been effectually relieved by his dentists. I was kindly assisted in the operation by Drs. Carter, Bassett and Pynchon; chloroform was not used; no vessels required ligatures.

Case IX.—M. W——, aged four years, daughter of a minister, was attacked with croup on the night of March 10th, 1871. The usual remedies in such cases were used by Dr. Binford and myself without affording any relief for six days, when it became obvious that unless she was soon relieved she would become asphyxiated. After consultation with Dr. M. C. Baldridge, of this city, tracheotomy was determined upon, chloroform was administered, and the operation performed, and a double trachea tube inserted; constitutional symptoms ran very high for two days afterwards, when they began to subside; several pieces of false membrane were expelled through the tube with powful paroxysms of coughing. The dissolving membrane was so tenacious and abundant, that the inner tube was frequently obstructed by it, and had to be removed. Great relief was afforded the little sufferer by the use of the atomizer; the atomized fluid, half grain permanganate potassa to an ounce of water being directed on the mouth of the tube. On the seventh day after the operation the inner tube was removed, and a cork inserted in the outer, and the patient allowed to breathe through the natural passages for several hours. On the ninth day both tubes were removed and respiration was performed regularly. The wound gradually filled by granulations, and the fifth day after the removal of the tubes was entirely closed.

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TOPOGRAPHY, DISEASES, OBSTETRICS AND SURGERY OF SPRING HILL, MARENGO COUNTY.

By GEORGE WHITFIELD, M. D.

Prefatory Remarks.—The writer craves the clemency of the critics, and throws himself upon their generosity by confessing that he is unable to write elegant English. He would explain the dryness of this report by stating that he has had nothing but dry facts upon which to base it. It will be a plain, simple, unvarnished statement of *facts.*

Topography.—The "Spring Hill neighborhood" may be described as a territory eight miles square, which may be divided into three parts, according to the nature of the soil, viz.: The "Canebrake," the "Post-oak," or "Flat-woods," and the "Sand Hills." The "Canebrake" lies on the north, and includes more than half of this territory; the soil stiff and clayey, and varying in depth from a few inches to many feet, and in color from a dark ash to deep black; the general outline rolling; before the war well drained by large canals and ditches, but now, in many places, in a sad state of neglect, containing no perrennial springs, and its water-courses ceasing to flow in summer; formerly heavily timbered and interspersed with canebrakes—hence the name—but now nearly all cleared, presenting large open plantations of great fertility, and before the war, by far the healthiest portion of our neighborhood. The draining canals and ditches carry large volumes of water after the heavy rains at all seasons of the year, but in summer are either nearly dry or contain stagnant water in the lowest places. The now badly drained fields are in many places quagmires, overgrown in summer with rank vegetation, and emitting noxious exhalations. Underlying all this district, and at various depths, in many places coming to the surface, is soft, bluish limestone, which becomes white on long exposure to the air. This limestone has myriads of shells embedded in its substance, and sparingly sulphuret of iron in lumps, some of them beautifully chrystalized. From underneath this stratum when bored through, spouts the water, which supplies the artesian wells.

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All the well water in this region, with this exception, is unwholesome, being strongly impregnated with the earthy salts and sulphuret of iron, and tainted with decayed organic matters from surface drainage. Cisterns dug in the solid rock and supplied with rain-water caught in the winter from the housetops—furnish excellent water, cold, clear, wholesome, and pure, except slightly impregnated with lime. That caught in warm weather, abounds in animalcules, and is thought to be unwholesome.

The "Post-oak" lies on the southeast and south, stretching round towards the west, so as to enclose the sand hills between itself and the canebrake, and embraces almost as much territory as the latter, differing from it in being, perhaps, a little more level, stiffer, and more clayey in soil, having its limestone foundation deeper, and its chief growth post-oak. Irregularly scattered over it are spots of that singular formation called "hog-wallow" land, the surface presenting a series of little elevations or hillocks, a few yards apart, with little depressions or basins between, which hold water in their clay bottoms like a bowl, none of it being absorbed, but disappearing only by evaporation; these little basins always containing drifted vegetable matter and moisture, await only the action of the hot summer sun to generate miasm of a malignant character. The well-water of this region is abominable, being a vile compound of sulphuret of iron, lime, mud, rotten vegetable matter, and perhaps some sulphate of magnesia. Some few streaks of sandy land in this region occasionally afford tolerable water. Malarial fevers of all grades are rife; none of the inhabitants escape, and the writer has never yet examined a white person from this district without finding an enlarged spleen, and their complexions indicate the depraved state of their health.

The "Sand-hills" lie near the centre of the neighborhood, between the Cane-brake and Post-oak, and consist of a series of irregular elevations or hills, somewhat higher than the surrounding country, many of them having steep sides, with damp and shady valleys or "hollows," as they are called, between, along the bottom of which run in wet weather small streams, many of which uniting, make creeks, which, ceasing to run in summer, become a chain of lagoons of stagnant, foul water. At the heads of these valleys, and under the steep hill sides are small, perpetual springs, the waters from which are, in summer, drunk up by the sands below. As the name would indicate, the soil is sand, overlying a substratum of reddish clay and sand mixed. The blueish limestone, doubtless, underlies this substratum, as it occasionally crops out on the hill-sides, and spots of cane-brake and post-oak land, which always overlie this stone, are found in the hills. Wells in this region afford pure, clear, free-stone water, unless dug in these spots of cane-brake, or post-oak. This region is, for the most part, heavily wooded, principally with oak, which furnishes abundance of vegetable material to rot in the damp ravines and valleys. These valleys,

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or hollows, as they are called, have an important influence on the hygiene of the community. It has been noticed for many years that families living on the hills near the heads of these ravines, suffer much more from malarial fevers than others, a distance of even a few hundred feet making a great difference. This has been theoretically explained by the resident physicians, on the supposition that the miasm generated in the valleys is drifted *up*, so to speak, when the winds happen to blow from that direction, and passes into the houses, being concentrated to one point by the sides of the hills as by a funnel. Whether the theory be correct or false, the fact attempted to be explained is indisputable.

Population. — The population of our neighborhood is almost entirely agricultural, numerically, perhaps about 2,500 of whites and negroes—the latter outnumbering the former about twenty to one. The whites are nearly all intelligent farmers, and their families in comfortable circumstances, generally of good habits, some of them laboring in the fields, and all the males much exposed to the open air, attending to their farming operations. Nearly all the blacks are tenants, occupying and cultivating the lands of the whites. Their habits and morals are about the same as everywhere else, and too well known to need description here. Suffice it to say, however, that although all are ignorant and superstitious, many set an example of industry and good behavior worthy of imitation by their more intelligent white neighbors.

Diseases.—The topography of this neighborhood would indicate that diseases of miasmatic origin prevails. Such is preëminently the fact, more than eighty per cent. of all cases coming within the practice of the writer, being malarial fevers in their various forms. In short, marsh miasm is the scourge of this county, and makes its impressions on nearly all ailments, rendering the use of quinine appropriate in nearly all of them. No portion of the above described region is exempt from it, but the "Post-oak" is by far the worst afflicted.

These miasmatic fevers usually make their appearance during the first hot weather in June, and prevail with varying intensity until the first cool weather in October, from which time they gradually diminish numerically and in intensity, until winter, some cases, however, of intermittent, and even pernicious fever, occurring as late as February. Calomel, the opiates, quinine, blisters, and rubefacients combined, according to the symptoms, have been the usual treatment. A liberal use of cold water and ice in the hot stage, has seemed very beneficial. Morphine administered hypodermically, has proved to be an admirable adjuvant in bringing about reäction from the cold stage. The writer has very rarely found it necessary to resort to venesection in any of these cases. Chronic intermittents are very common among the whites and mulattoes—never among the negroes of pure, unmixed blood. The difference between the constitutions of the two races in this

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respect, is very marked, and the half-breed seems to derive no advantage from his negro blood, as a shield against miasm. These miasmatic fevers are a dangerous complication of pregnancy, frequently causing abortion, which almost always results in death from collapse, the woman beginning to sink immediately after the accident.

Malarial hæmaturia has been rare; but three cases are remembered—all whites—all recovered; one mild, the other two very severe; neither of them deeply jaundiced. Tinctura ferri chloridi in twenty drop doses frequently repeated, with small doses of quinine, was the chief reliance in these cases. No other remedies were administered, except two or three grains of calomel, combined with rhubarb, sufficient to move the bowels about once a day, and an opiate at night. The writer, on account of his limited experience in this terrible complication, fears to recommend any particular plan of treatment, but supposes the specific effect of mercury contraindicated, on the theory that the blood is already deficient in fibrin, and the capillaries debilitated, and would rely chiefly on the mineral tonics and astringents, guarding against periodicity with quinine.

In 1866 several thousand white persons, of both sexes and all ages, were brought to this county from some of our upper counties, to take the places as laborers of the demoralized blacks. Some two hundred of them occupied a negro quarter in the cane-brake of this neighborhood, and suffered extremely with miasmatic fevers, their filthy habits causing among the children a fatal epidemic rarely found outside of the filthiest purlieus of the cities, viz: That apthous disease of the mouth, called by the French, *muguet*. This eruption was very peculiar, and was recognized at once by the writer, as having been seen by him but once before on the tongue and buccal mucous membrane of a Confederate soldier, moribund from scorbutic diarrhœa. It bore a strong resemblance to a kind of fungus or mould, often seen in this country on old rotten logs; was quite adherent, causing slight hemorrhage when scraped off, in color from almost white to dirty yellow. The writer believes that in some instances it extended into the œsophagus, stomach and intestines, as the bowels were, in all instances, loose, and the alvine evacuation horribly offensive, far more so than any he has ever smelt, and peculiar in odor. Rhubarb and sulphate of zinc, in small doses, frequently repeated, seemed advantageous to the few who recovered.

During the excessive heat of summer a sharp fever of a few days duration, and of an irritative type, accompanied with severe pain in the back of the head and neck, is common among those who labor in the hot sun. These cases are generally soon subdued by saline cathartics, rest, cold water, and opiates. The writer saw many similar cases among soldiers during the war in the summer campaigns. He does not consider them of malarial origin, or that

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they differ materially from the "Irritative Fever," as described in the text books.

Infantile Remittent Fever occurs endemically throughout the year—generally of short duration, and easily managed, but some of them lasting occasionally three or four weeks. Neither argument, persuasion, nor explanation can induce the public to believe that these protracted cases are not typhoid fever; and as they generally recover, the doctor gets the credit of having cured a dangerous case, so their obstinacy of opinion does no harm. The plan of treating this variety of fevers has generally been expectant, presenting nothing worthy of note.

Typhoid Fever has been rare, but five or six occurring in the writer's practice, and presenting no feature worthy of mention. This disease seems declining in our country of late years. The writer has been informed that many years ago it was very prevalent and very fatal.

In 1868 one case of genuine spotted typhus fever was seen in a white woman, lasting one month, terminating in recovery, and not spreading. The cause could not be satisfactorily explained, but it is significant that the patient lived in an old rotting house with a leaky roof.

The Exanthematous Fevers have not prevailed epidemically since the writers residence here, but quite a severe epidemic of rubeola visited the community in 1857. In 1865–66 a few cases of small-pox occurred among the negroes, with but one death.

Pneumonia appears sporadically at all seasons, sometimes almost epidemically during or after a protracted cold and damp spell in winter, chiefly among those most exposed to the weather, and is generally easily managed. Venesection is seldom indicated or practiced in these cases. Opium in large doses and calomel to ptyalism is generally resorted to. When the pulse is very frequent and moderately full veratrum viride, in the form of Norwood's tincture, is used to the exclusion of all other remedies, except mild cathartics. Typhoid pneumonia once prevailed as a fatal epidemic in the crowded negro-quarters, but now is rare since the negro's demand for his little "patch" of a garden has compelled the planters to place their cabins further apart. These cases were combatted with tonics, opiates, stimulants, and oil of turpentine, the latter being considered especially useful, but the disease was very fatal in spite of all treatment.

Dysentery prevails, though rarely as an epidemic, occasionally as such, however, in the fall or spring, when the days are hot and the nights cool. A thorough cleaning out of the bowels with magnésia sulphate or castor oil, in the beginning, followed by opium, in rather large doses, frequently repeated, and rice water diet, generally cures these cases. If the skin, conjunctiva, tongue, or any other symptom indicate torpor of the hepatic function, a little mercury, with ipecacuhana, should be added to the opiate.

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A very malignant epidemic of this disease, which the writer supposes, from the description given him, was typhoid in type, prevailed here, as also in other portions of the county, in 1853. The mortality was dreadful; in some instances whole families were swept away. Diverse and opposite modes of treatment were adopted, all of which seemed equally ineffectual. One gentleman treated his own family by drenching them with large quantities of melted mutton suet. They recovered, whether by virtue of, or in spite of the remedy, can not be determined.

Hepatitis.—The acute form is very rare—the writer does not remember to have seen a single one. The chronic form is rather common, both among whites and blacks, especially in the Post-oak region. These cases are generally fatal, sooner or later, some of them lasting several years.

A very fatal, though rare, disease of the liver, among negro children, between one and six years old, has made its appearance since their manumission—probably chronic inflammation, as the organ is enormously enlarged. Medical aid is never sought until dropsical symptoms appear, when this condition of the liver is found. Remedies seem to avail nothing, as all of them have died after lingering from a few weeks to many months. The bad diet and general wretchedness to which many of these unfortunate people are now exposed, is perhaps the reason why this variety of the disease is confined exclusively to them.

Bright's Disease has been very rare, but three cases occurring; one died—the other two recovering, one under treatment, the other spontaneously, having fallen into the hands of a negro conjurer, or "trick doctor."

Cerebro-Spinal Meningitis, while epidemic in other localities in this county, but two cases of this fatal disease have occurred within the writer's knowledge, in this neighborhood—both negroes. One fell into the hands of a negro conjurer, who informed the friends that she had forty "spring lizzards" in her, and would surely die, which she did in thirty-six hours from the first symptoms. The other case, a girl eight years old, apparently convalesced on the sixth and seventh days, and relapsed on the eighth, and died on the ninth day. The writer saw a good deal of this disease among soldiers during the war. He has *never seen a case recover*, but has heard of a few.

Obstetrics and Diseases of Women.—Some of the whites, and all the negroes entrust cases of child-birth to nature and the midwives, consequently grave accidents to both mother and child are not uncommon. Retention of the placenta is frequent, and the writer has seen death occur in one case from septicæmia.

Placenta Previa.—One case of this fortunately rare complication occurred in a case to which the writer was called in consultation. A portion of the placenta about one-third the size of the hand, was attached over the os uteri. Hæmorrhage was quite profuse—suffi-

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ciently so to depress the pulse. The case was brought to a favorable issue by expediting delivery with ergot and manipulation, without the use of instruments.

Chronic Inflammation of the Uterus, with engorgement and ulceration of the os, is very common, and has in most instances been treated with very little satisfaction, except among the most intelligent whites, for no other class of patients will submit to the restrictions necessary to the management of these complaints, not being able to understand their necessity. The writer has never failed to cure these cases when his directions have been literally obeyed, and prescriptions followed. His treatment has been as follows: Requiring the patient to live absolutely *absque marito*, and lie in bed *all the time;* he cauterizes every fifth day the os, with solid stick of nitrate of silver; the woman injects herself *per vaginum* once every day (except on the day when the caustic is used) with a solution of sulphate of zinc, ten grains to the ounce of water; takes a purge of sulphate of magnesia or Rochelle salts every fourth day; and lives on rice, or gruel, or mush, alternating between the three, while under treatment. When they will submit to this treatment they are cured within from four to eight weeks; but few have the fortitude to submit to it.

Disorders of menstruation are very common, and if medical treatment has ever in his hands been more than palliative, the writer has never been able to see it. Except in such disorders as have been the result of the ulceration of the os, he does not claim to have ever cured a case.

Surgery.—As in most country locations comparatively few cases occur requiring surgical aid. Fractures, bruises and incised wounds are rather common among the blacks, who, having now no guardians, are left to the bent of their own unbridled passions and heedless inclinations.

Fractures have always been treated with the simplest appliances that would meet the indications, no particular authority or rules being followed. The result has been variable, though generally satisfactory, and in some instances decidedly flattering, no deformity whatever resulting. But one capital operation, amputation of the leg through the upper third, in an aged negro man, for compound fr[illegible]ure, can be reported—this presenting nothing worthy of note [illegible]ot that every particle of the flaps (the circular method was [illegible]racticed) sloughed off, leaving the muscles uncovered and the bone projecting. The cut surface, however, healed over by granulation, and made a good stump.

A rather singular and unique case of keloid tumors occurred in 1868, in a young negro woman, upon whose back, from loins to occiput, were perhaps about fifty of these tumors, rather regularly distributed, varying in size, though most of them quite small, from a swan shot to a hickory nut. Three of the largest, which were attached by pedicles, fissured, bleeding and tender, were excised.

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The subject being scorbutic, the wounds ulcerated, the sutures tore out, and the cuts gaped, leaving the wound to heal by granulation. Each cicatrix became a keloid tumor. Six months afterwards it was incidentally ascertained that the woman had, three years before, been sprinkled with small shot while trespassing on a gentleman's garden. Each shot hole had become a keloid tumor, thus showing a strong constitutional predisposition to assume this form of perverted growth. Should occasion occur to reap another crop from the same soil, examination will be made to see if a shot be not the nucleus of each tumor.

Venereal Diseases.—Syphilis is rare. Negroes have more of it than the whites, and on account of their ignorance never consult a physician until in the second stage. Argenti nitras solid applied to the open sores, carbolic acid diluted with olive oil to the eruptions, while the patient takes internally one-thirty-second of a grain of bichloride of mercury three times a day, have always cured these cases when they can be induced to follow the treatment long enough. When afflicted with any unusual or lingering disease they imagine themselves "tricked" or conjured, and consult a "trick doctor"; then if they die their friends say their "time had come"; if they recover, the trick doctor gets the credit of the cure.

Gonorrhœa is rare among the whites, but exceedingly common among the blacks, the married as well as the unmarried. A noticeable fact, not yet explained satisfactorily to the mind of the writer, is that the negresses never seek medical aid for this disease—perhaps because they suffer less inconvenience from it. The behavior of this disease among the blacks is very different from that among the whites. It is much more readily cured, and rarely complicated with epididimitis, orchitis or strictures. After supplying them with a vial of copaiba, the physician seldom hears of them again. The constitution of the negro seems to be less irritable, and there being no odium attached to the disease, his mind does not prey upon his body.

Since the above was written, cerebro-spinal meningitis, which has been prevailing in other localities in our county for about a month past, has made its appearance here, two cases occurring up to this time, March 6th—both negroes, one a man, the other a child four years old. One died in twelve hours, the other in twenty-four.

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REPORT ON THE DISEASES OF MOBILE DURING THE YEAR 1871.

By G. A. MOSES, M. D., of Mobile, Adjunct Professor of Science and Art of Medicine in the Medical College of Alabama.

In performing the duty imposed upon me, it is most gratifying to be able to state that our city has during the past year escaped the afflictions incident to visitations of epidemics. Notwithstanding that during the summer and autumn nearly all the Southern cities with which Mobile is in commercial intercourse were visited by a very fatal type of yellow fever, we were permitted to enjoy freedom not only from that, but indeed from any amount of severe general sickness.

To what we may attribute our happy exemption is not easy to say. To some extent, perhaps, the very general prevalence of yellow fever in 1870 was a protecting cause. Quarantine was enforced against ports with which we are in communication by sea, and all the means in the power of the Board of Health were used to keep the streets, gutters, and premises in as cleanly a condition as was possible. Disinfectants were largely used by tenants, and to some extent by the city in the gutters and drains which were most liable to become offensive.

The many difficulties in the way of proper enforcement of street cleanliness will be seen when it is recollected that all of the streets of the city, with the exception of four or five principal business ones, are without pavement of any sort. The soil is loose and sandy, gutters and drains rapidly become obstructed by the shifting sand, and drainage is most inefficient. The accompanying map will assist the comprehension of the topography of the city site.

January was rather colder than is ordinarily the case, the mean temperature being 49° 47′ F. The total amount of rain fall was 6.05 inches, and the prevailing wind southeast.

As a consequence, we had to treat pneumonia, bronchitis, pleurisy, which diseases occasioned death in seventeen instances reported. Many old cases of phthisis pulmonalis succumbed. Some

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cases of typhoid fever were reported, but these were few. In addition to the catarrhal and pulmonary diseases, an innocent class of eruptive complaints were very common, as urticaria and roseola, the latter frequently being so severe as to occasion several days of confinement to bed, and in some instances the accompanying fever was of such extent that it was only by the absence of the facial symptoms, and by the varying, irregular duration of the fever, that it could be distinguished from scarlet fever, some cases of which did occur, as did also enough to be noticeable of erysipelas. These diseases were generally mild and manageable, no death being reported from them.

February had a milder temperature, 59° 20′ F. Rain fall, 3.03 inches. Prevailing wind, south.

The general classes of disease unchanged, but the type of catarrhal and pulmonary complaints milder. Eleven deaths occurred from pneumonia and pleurisy, six of which were among negroes. A case declared to be typhoid fever, and one of hæmorrhagic malarial fever, were reported at the meetings of the Medical Society. In both instances recovery followed. The chief diseases reported as general were congestion of brain and lungs, to which your attention will be further directed.

March—Mean temperature, 63° 56′ F. Amount of rain, 9.79 inches. Prevailing wind, southeast.

Although the temperature was approaching that of summer, the month was a wet one, accompanied by southeasterly winds, loaded with moisture, the catarrhal diseases were increased over those of the previous month, and we note thirteen deaths from acute pulmonary complaints, including one from croup, two from diptheria, three from cerebro-spinal fever, besides which there were reported twelve deaths by phthisis pulmonalis, and three from hæmoptysis. During the latter part of the month bowel complaints began to be common.

In April, with a mean temperature of 68° 85′ F., rain fall 2.92 inches, and south winds, acute pulmonary diseases almost disappeared, and in their place we had a large number of cases of dysentery (none fatal), and diseases generally began to assume the malarial form. Many cases of cerebro-spinal fever were reported, which with meningitis, cerebritis, convulsions, and congestion of brain were the accredited causes of death in sixteen instances. Parotitis was epidemic, and many cases of mild erythemata continued during this and the ensuing month.

May and June were wet months, the amount of rain fall respectively being 6.18 and 5.18 inches, mean temperature 73° 81′ and 81° 86′ F., and the prevailing winds south and southwest. The general character of diseases was mild and manageable, consisting largely during May of dysentery and vernal fevers. The marked peculiarity of diseases when severe was a hæmorrhagic tendency, which was noticeable particularly after surgical operations and parturition. A few cases of diarrhœa in children occurred during May, which

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became prevalent in June, along with a marked number of cases of bronchial and laryngeal cases, with some of rheumatism. The cases of cholera infantum occurring now were generally accused of being obstinate in resisting remedies, and sixteen deaths occurred from this class of diseases. This is, as a rule, our month of professional vacation, the amount of sickness being reduced to the minimum, and although I think there was this season a greater amount of sickness than is ordinary for the month, its fatality was small, deaths numbering but eighty-four, total.

[Up to this date no reliable data as to localities of or local causes for disease are available, nor is the registration of causes of death other than inexcusably and shamefully imperfect, often grossly incorrect, and very frequently not stated at all. During June the newly adopted laws in relation to registration of deaths, sanitary inspection, and all matters in relation to public health, were put in force under direction of the Board of Health, and a gradual improvement is perceptible as regards the information obtainable. This note is made to explain the nomenclature of the causes of death, and the large number of deaths from unknown, debility, &c.]

In July we had our hottest weather nearly, the mean thermometrical range being 83° 26′ F. Amount of rain, 4.24 inches. Prevailing wind, west.

During the first third of the month there was but little sickness, and that of a mild type of fever, along with some bowel complaints, these having diminished very much. (At this time, too, our citizens, at least those who can afford it, make their loyal hegira northward, very many scattering among the mountains of Virginia to enjoy for a season the bracing atmosphere of those regions in crowded hotels, while they improve the physique by active exercise—in ball rooms.) At this time the gutters and large drains of the city were in the worst condition, which was occasionally improved temporarily by a flushing shower of rain. The southern and southeastern portions of the city were particularly defective as to drainage, large pools and ponds of water standing in many places, and the point of land known as Choctaw Point swamp, in addition to its naturally bad condition of swamp, covered with vegetable debris, had been made a dumping ground for all species of refuse, from street garbage to dead animals and night soil. In this neighborhood now the malarial fevers began to increase in number and intensity, assuming the congestive type, and often associated with severe enteric complications. Very many, and the most fatal of these cases, occurred in laborers employed upon the railroads, in which instances the diseases were contracted beyond the city limits.

The northwestern portion of the city (seventh ward) is bounded by another swamp or creek bottom, and here also many cases of severe malarial fever occurred, chiefly among negroes, the main population of that district. The total deaths from diseases of mala-

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rial origin during the month was twenty-seven, besides four of acute meningitis, which was probably due to the same cause.

August was ushered in with a decrease of temperature in the mornings, light northerly winds setting in before day and continuing until nine, A. M. From twelve, M., until after three, P. M., the heat was oppressive, after which it moderated, and the remainder of the afternoon and night was pleasant. The mean temperature for the month was 83° 82′ F., amount of rain fall 2.71 inches, and the prevailing wind northwest—notably one of the dry months of the year, December being the only one with less rain.

Remittent fevers, some of very protracted character, were the prevailing cases of sickness. These were all, or nearly all, marked by an unusual amount of jaundice, which also occurred even in mild attacks of intermittent. Early in the month the prevalent fevers became much disposed to produce intense cerebral and meningial congestion, which, if not terminating in a few hours either by death or recovery, was followed by effusion. The cerebral complication was particularly observable in children, occurring generally on the second or third day in remittents, and on the advent of the second paroxysm in intermittents. Even when the above mentioned congestion was not present, the nervous system seemed to feel the full brunt of the illness and suffer great prostration, death occurring in adults usually by coma, in children by convulsions. Other instances occurred in which the attack approached without the symptoms incident to malarial fevers, and assumed somewhat those of cerebro-spinal fever, commencing with mere sleepiness, increasing to stupor, retraction of the head to some extent, followed by coma—the base of the brain and medulla being the centres most affected. Mercurial purges, followed by the use of veratrum and quinine, were the remedies most relied on in the cases of fever, the quinine being administered in full doses and early—i. e., in remittents as soon as the bowels were moved, and in intermittents as the fever commenced to abate. Quinine being most serviceable and well borne as soon as the skin begins to moisten, the cutaneous function seems accelerated and increased by the drug. In the cases of meningial or cerebral hyperemia unpreceded by fever, the veratrum was given sufficiently to control the circulation, repeated in doses and at intervals p. r. n., in conjunction with leeches, cupping and cold to the head. Where a prompt impression was by these means made upon the disease the case usually recovered. Quinine was, I believe, invariably used to some extent during the convalescence. Your Reporter used it by enema, as soon as the bowels had been evacuated, being satisfied of its great efficacy in subduing hyperemia, as well as serving as an anti-toxic to malaria.

Cases of bilious colic occurred during this month and last, resulting in death in one instance. This form of malarial sickness does not present itself so commonly as in former years it was reported to do. Dysentery was added to the list of complaints, while diarrhœa

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had almost disappeared. As a small but widely spread annoyance, we note an abundance of furunculi, singly and in crops; the number of persons applying for remedies and met on the streets, with fingers and hands in limbo on account of this Jobish visitation, was noticeable. Slight eruptive diseases were still met with, but not so frequently as two months before.

September—Mean temperature, 75° 57′. Amount of rain fall, 3.95 inches. Prevailing wind, northeast.

After the first third of the month general sickness was diminished, especially among the whites, and the fevers assumed a milder type, accompanied less frequently by cerebral complications, the chief peculiarity of the malarial fevers being the constant occurrence of acute abdominal pains, often of great intensity, probably the combined result of portal congestion and malarial neuralgia. The first indication in the severe cases was to relieve the pain, for which purpose I found hypodermic use of atropia and morphia most efficient, after which quinine in decided doses to prevent recurrence, which was inevitable without it. Where the pain was not so intense as to require the use of anodynes for its immediate relief, quinine alone was the most effective agent. The doses required were larger than in fevers, cinchonism being the point to be attained and sustained for thirty-six or forty-eight hours, any disagreeable effects of which are promptly subdued by an occasional draught of solution of bromide of potassium. In these cases cathartics would often fail to act until the system felt the effects of quinine, when efficient alvine evacuations promptly followed. The fevers of this period were followed by prostration of very marked character, conjoined with jaundice, before observed; in many cases active stimulants, as carbonate of ammonia and brandy, being demanded for several hours. Several cases of malarial hæmorrhagic fever were reported, in one of which I examined the urine, containing blood and granular casts. This was a case occurring in a pregnant woman, terminating fatally. About the fifteenth of the month, heavy rains occurred for several successive days, followed by a decrease in the number of cases of fever. After the 25th the bulk of sickness was among negroes living in those portions of the seventh ward near the swamp. Catarrhal affections began to occur, fevers continuing, but without the severity of the cases described.

October was a continuation of September, except that there were fewer cases of hæmorrhagic malarial fever and more of dysentery. Mean temperature, 70°. Amount of rain, 5.33 inches. Prevailing wind, northeast.

November, mean temperature 59°; amount of rain 6.48 inches; prevailing wind north; generally healthy; a few cases of scarlet fever occurred, some from pleurisy, croup, and light catarrhal affections. One death occurred from yellow fever. The patient arrived from Natchez via New Orleans—a stranger—employed by the North-

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western Railroad Company; was taken sick the day of his arrival in the city, dying on the fifth day.

December was likewise healthy, bronchitis and pneumonia occurring in persons necessarily exposed to the weather, but there cannot be said to have been any prevalent disease important enough to be observed.

By reference to the accompanying table of mortuary statistics, it will be seen the great destroyer of mankind, and saddest of all diseases, phthisis pulmonalis, even in our land of sunshine and seabreezes, carries off the largest proportion of those whose days have been numbered, those of negro and mixed blood being the greatest sufferers. The per centage of deaths from this cause being among whites 13.52 per cent, of deaths from all causes, excluding still-births; among negroes 15.26 per cent. Total per centage of all colors 14.4. Negroes lose very many infants by tetanus neonatorum, the per centage being 8.133 of deaths from all causes, while among the whites the per centage is but 1.31. The per centage of deaths from malarial fevers is considerably less than that of either of the above mentioned diseases. Owing to the imperfect registration of deaths prior to June, the calculation in this class of cases can only be made approximately, and for the last seven months of the year, at the season when the diseases generally considered due to the influence of malaria are prevailing, the estimation for the entire year would reduce even this per centage, which is, excluding deaths arising from attacks of malarial fever not contracted in the city, but on the river or in the marshes where railroad employees were engaged, 4.5, including the exceptions made, 6.31 per cent.

The death rate, including all causes of death, per one thousand of population is as follows:

Whites,———20.22 per 1,000, (excluding still-births.)
Negroes, &c.—40.84 " " " "
Total population, 26.94 " " "

Many patent reasons account for the large negro mortality.

First.—Their universal carelessness of themselves in health, even where circumstances permit or even encourage the reverse.

Second.—Dilatoriness in seeking medical aid, (very many dying without such attention,) and neglect in obeying the directions of physicians when called.

Third.—Intemperance and licentiousness in both sexes.

Fourth.—Those who do not live as hired servants, but either rent or own residences, live in those portions of the city which are notoriously unhealthy.

Fifth.—Despondency when sick, and lack of mental as well as physical vitality to resist serious illness, pulmonary diseases either acute or chronic, being extremely fatal among them.

Reference to the accompanying meteorological tables, (for which valuable addition to my report, I am under obligations to the courtesy of the officers of the U. S. signal service,) exhibits the fact

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that the summer, although marked by some very hot days, was a pleasant one. The highest point reached by the thermometer was 95° at 31.5 P. M., July 17th, and after that not again until 22d August, at the same hour, did it reach so high a point.

The heat of the sun being tempered by the gulf winds, which are ordinarily very regular, commencing about 10 A. M., and dying out about 2 P. M., to set in again before sunset, and continue through the night until just before day-break; the past summer was notably deficient in these periodic winds, which made it a hotter one than usual. During two years when I kept an accurate record of the temperature, I never saw the mercury in the shade mark more than 93°, and this only two or three times in each year.

The character of our summer rains, so delightful in their influence, is peculiar to the gulf coast and sea boards—coming in sudden showers and pouring down over a limited district, often not more than one-third of the city, a surprising quantity of water. If the showers occur during the day, the immediate effect is unpleasant and unwholesome, the air becoming dense and oppressive from the rapid evaporation from the sandy soil, but when occurring during the night, the effect is the reverse. The past summer, as will be seen by the tables, was a dry one.

Topography.—The site upon which Mobile is built, is on the west side of Mobile river, commencing at, or near, the point of land marking the mouth of the river, and designated on the accompanying map as "Choctaw Point." It extends northward from this point about two miles, and westward about two miles. The city limits include a larger surface, but the above dimensions will nearly define the city proper.

The ground rises gradually from the river to Wilkinson street, from which to Broad street the surface is nearly level. At Broad another elevation begins, which extends westward several miles; Lafayette street, rising forty feet above the level of the river, until beyond Spring Hill (six miles) a high plateau is reached, a marsh intervening.

North of the city, and defining its northern limit, runs a stream, (One Mile Creek,) which, as will be inferred from its course, drains a large portion of the north-western section. The creek is bounded by a wide marsh or bog, which, commencing at the river terminus of Marion street, runs south-west to near the gas works, (Seventh Ward,) then northwest, crossing Centre street west of the reservoir, and extending to city limits and Three Mile Creek. At its widest part, this bog is quite half a mile; it surrounds two sides of the Seventh Ward, in which resides more than one-third of our negro population. From the point at which Three Mile Creek begins, or the western boundary to the junction of Dauphin Way and Lafayette street, the water is shed into Three Mile Creek. East of Lafayette and north of Government street, the bulk of the water is drained to Broad, then into One Mile Creek, by Broad, St. Louis

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and Wilkinson. East of Wilkinson the drainage is via the streets eastward to the river. From west of Ann, and south of Dauphin, the water is carried through a large drain running northward via Ann and Tennessee to the bay. East of Ann, between Church and Virginia, it drains through the city to the river.

Choctaw Point Swamp, referred to in the report, covers about one hundred and fifty acres. There is a plan now on foot for converting this pest into a public park. South of Virginia street, to and beyond the city limits, is a level plateau, with a few high points and many low places, holding water after rain. This is intersected by small streams running into the bay, fringed on either side as they empty, by bad, boggy marshes.

With these exceptions, the general disposition of the city site is a plateau, containing, in places, designated upon the map, low spots, some of which nearly always contain water; these are numerous in the section of the city south and south-west of the intersection of Wilkinson and Charleston, and between the Washington Avenue car stables and cemetery. During the present winter much of this portion of the town has been drained by newly-cut outlets.

From Choctaw Point southward the shore is a wide beach, covered during high tide to the depth of one or two feet of water; at other times exposed to the width of, in places, one-eighth of a mile. On this is deposited quantities of river sediment and drift-wood.

The chief localities of malarial fevers, particularly congestive, were in those portions of the town containing ponds, or bounded by swamp. Several of the cases of hemorrhagic malarial fever originated south of the foot of Conti street, near the Gulf City Hotel.

For the map of the city herewith presented, and for information as to the topography, I am under obligations to Col. J. A. Brown, City Engineer.

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CAUSES OF DEATH FOR EACH MONTH, from January 1st to December 31st, 1871.

DISEASE OR CAUSE OF DEATH.	Jan.		Feb.		Mar.		April		May.		June.		July.		Aug		Sept.		Oct.		Nov.		Dec.		Totals.		REMARKS.
	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	
General Diseases—A.																											
Pertussis	...	2	...	...	1	1	...	...	3	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	5	4	
Erysipelas	...	1	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	
Erysipelas phlegmonodes	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	....	
Diptheria	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	....	
Parotitis	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	....	1	
Hydræmia	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	....	
Pyemia	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	1	
Febris typhodes	...	1	...	1	...	...	...	2	...	1	...	1	...	2	...	1	1	1	...	...	...	...	...	...	1	10	
" congestiva	...	...	...	1	...	2	...	...	...	...	2	...	5	2	6	4	4	2	3	2	1	...	...	...	21	13	
" typho-malarial*	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	....	
" remittens	...	...	...	...	...	...	1	...	...	...	...	1	1	...	...	1	1	1	...	1	...	...	2	...	5	4	
" intermittens	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	†1	...	...	...	...	...	...	....	2	
" flava	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	‡1	...	...	...	1	....	
" cerebro-spinalis	2	...	...	...	3	...	1	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	2	2	7	5	
" hæmorrhagic malarial	...	...	...	...	...	...	...	...	...	...	...	...	1	....	...	...	1	....	1	....	2	....	3	....	8	....	
" puerperalis	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	....	1	
" traumatica	...	...	...	...	...	...	1	...	...	...	...	...	...	....	...	...	...	...	...	...	...	...	...	...	1	....	
General Diseases—B.																											
Anasarca	...	...	1	...	...	...	...	2	1	...	1	1	...	...	...	1	...	1	1	...	...	...	...	...	4	5	
Carcinoma	...	...	...	...	1	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	2	1	
" medullosum, femoris	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	....	
" encephaloides, maxilli	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	2	....	
" ventriculi	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	2	....	
" uteri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	3	....	
" jecinoris	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	....	
Enteritis tuberculosa	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	....	
Enteritis syphilitica	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....	1	
Struma	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	....	2	
Phthisis pulmonalis, acuta	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	...	...	....	4	
Phthisis pulmonalis, longa	9	8	4	4	6	6	2	10	6	7	6	8	8	5	9	7	3	8	9	8	6	2	4	8	72	81	
Tabes mesenterica	...	1	...	...	...	...	1	1	1	...	1	2	....	3	2	....	....	1	....	....	....	....	....	....	5	8	
Tuberculosis	...	...	...	...	...	...	1	...	...	...	...	...	1	....	1	....	....	1	....	....	....	....	....	....	3	1	

*Febris remittens inflama protracta.

†Poverty and neglect.

‡Contracted in New Orleans or Natchez, where deceased had been for some unknown time; arriving in Mobile sick, went immediately to hospital, and died on seventh day after arrival in the city.

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Cachexia malarialis							1																		1	
Purpura hæmorrhagica							1								1										2	
Rheumatismus acutus					1																			3	1	3
Syphilis inveterata																								1		1
Meningitis tuberculosa														1							1		1		2	1
Meningitis syphilitica																						1				1
Diseases of the Nervous System.																										
Apoplexia	2	1	2		1						2	1	1				2		2						12	2
Concussio cerebri											1														1	
Congestio cerebri§				2	1	1	1	3		4			5	2	5	3	5	3	4	6	2		1	2	24	26
Congestio cerebri et pulmonorum														1												1
Encephalitis	2	1			1	3	1		2	4		2	3		2										11	10
Hydrocephalus‖				1		1			2			1			3	1		1		1		1		1	5	8
Meningitis				1			3	5	2		3		3	1					1			1	1		13	8
Myelitis																			1						1	
Molites cerebri	1								1										1						3	
Paralysis		1				1						1			1		1	2						1	2	6
Solis ictus															1										1	
Irritatio spinalis					1																				1	
Functional Diseases of Nervous System																										
Delirium alcoholicum	2														1		2						2		7	
Convulsiones infantalis											1	2	1	3	2	5	2		3	7	1	4	1	2	11	23
Convulsiones¶	1	1		2	2	1	2		2	1					1		1		1						10	5
Epilepsia															1			1				1			1	2
Tetanus, traumatica**																		1			1		1		2	1
" idiopathica††	1	1	2	1				1	1								1								5	3
" neanotorum											1	1		5	1	7	1	7	1	3	1	3		5	5	31
Diseases of Circulatory System.																										
Hypertrophia cordis	1				1		1					1									1				4	1
Morbi cordis‡‡	1	2			2	3	1	3	1	3															5	11
Morbi valvarum	1										1	3		1	1	3			1	1	5		1		10	8
Atheroma cordis																1				1			1		1	2
Dilatatio cordis										1																1
Paralysis cordis									1																1	
Endocarditis					1			1											1						2	1
Cyanosis								1																		1
Syncope		1																								1
Hæmorrhagia										1																1
Aneurysma aortæ, diruptio					1														2						3	
Morbus Addisoni													1												1	

§Many of these cases were, I think, a form of meningitis, and are alluded to in *general report*, particularly.

‖Undoubtedly most of these should be under head of meningitis tuberculosa, or encephalitis.

¶From January to May inclusive, infants and adults are included, from June only adults.

**1 following operation for hemorrhoids, 1 excision of testicle, and 1 following accident.

††Doubtless most of those recorded for the months prior to June were in new born children.

‡‡Varieties not stated up to June 1st.

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	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	
Diseases of Respiratory System.																											
Angina trachealis	...	...	1	1	...	1	1	2	...	1	...	...	...	...	...	...	...	...	1	...	3	...	...	1	6	6	
Asthma	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	....	
Bronchitis acuta	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	1	2	...	1	1	...	5	3	
" longa	2	1	...	...	...	2	...	1	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	4	4	
" acuta capillaris	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	....	1	
" senilis	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	....	1	
Broncho-pneumonia	1	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	1	2	
Congestio pulmoni	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	2	...	...	1	...	...	...	...	...	3	2	
Emphysema vesiculare	...	...	1	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	1	...	...	...	...	2	2	
Empyema	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	....	
Hæmoptysis	1	1	...	...	3	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	4	3	
Hydrothorax	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	....	
Laryngitis acuta	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	....	1	
" longa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	....	
Laryngo-bronchitis, longa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	....	
Œdema glottidis	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	1	
" pulmonum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	1	1	2	
Peripneumonia	6	4	4	5	2	5	1	2	1	2	...	...	1	...	...	1	...	...	1	3	1	2	5	6	22	30	
" congestiva*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	....	*Accompanying albuminuria & parturition.
" icterodes	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	....	
" typhodes	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	....	
Pleuro-pneumonia	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	3	2	
Abcessus pulmoni	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	....	1	
Diseases of the Digestive System.																											
Cholera infantum	...	...	...	...	...	...	1	...	1	1	5	2	1	...	...	...	...	...	...	...	...	...	1	...	9	3	
Colica	...	...	...	...	...	...	†1	...	1	†1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	†Indigestion.
Colica biliosa	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	1	
Constipatio	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	....	1	
Diarrhœa acuta	...	1	...	...	...	...	...	...	...	...	2	...	2	...	...	1	...	1	...	2	2	3	...	...	7	7	
" longa	1	1	...	...	2	...	...	1	3	...	1	1	2	3	1	...	5	...	1	...	1	1	...	...	7	17	
" biliosa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	....	
" tuberculosa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	...	...	1	2	

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Dysenteria acuta														1		1						1				3
" longa							1	1			1	1		1		1		1		2	2	1			4	8
" biliosa													1								1				2	
" pestifera														1												1
Enteritis acuta	1	1	3		1				2							2		1		2	1				8	6
" longa													1		1	2						1		1	2	4
Congestio intestinorum																				1						1
Hæmorrhagia ex intestinorum																			1						1	
Intussusceptio	2				1					1	1		1	1								1			5	3
Obstructio intestinorum							2													1					2	1
Peritonitis, traumatica																				1						1
Morbi ventriculi	1	1															‡1								2	1
Gastritis															1								1		2	
Ulcus ventriculi longum																							1		1	
Gastro-enteritis, acuta							1				2		1				1								5	
" longa											1	1		2											1	3
Abscessus jecinoris				1	1			1									1	1							2	3
Atrophia "															1			1							1	
Cirrhosis "													1		1		1		1						4	
Congestio "					1		1																		2	
" " et renum																		1								1
Hepatitis, acuta									1								1								2	
" longa					1								2	1											3	1
Ascites														1					2						2	1
Peritonitis						1													1		2				3	1
Splenitis, longa													1												1	
Leucocythemia			1										1												2	
Strictura Œsophagi																							1		1	
Diseases of Urinary System.																										
Morbus Brightii, acutus			1											1		1									1	2
" " longus					2				1	1		1		1		2						2			3	7
" renum									1																1	
Urina suppressa													1												1	
Diseases of the Spine.																										
Caries Spinæ														1												1
Abscessus psoadici																			1						1	
Diseases of Organs of Generation.																										
Gangræni Scroti														1												1
Hydrops Ovarii																			1						1	
Tumor Ovarii																								1		1
Metritis									1																1	
Metroperitonitis	1																								1	
Pyemiæ phlegmone pelvicæ													1												1	

‡Congestive attack.

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	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	
Errors of Development.																											
Anus impervius	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	....	
Diseases connected with Parturition.																											
1st—Affecting Mother.																											
Abortus*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	....	....	1	*Criminal.
Exhaustio a partu	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	....	1	
Malum puerperarum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	....	
Peritonitis puerperarum	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	....	
Eclampsia	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....	1	
Hemorrhagia inevitabilis	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	....	
2d—Affecting child.																											
Partus emortuus	2	6	2	5	2	7	2	5	1	5	2	5	3	7	7	4	6	11	3	7	1	5	5	4	36	71	
" intempestivus	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	2	1	1	1	...	...	2	6	
Asphyxia	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	1	1	
Atelectasis pulmonum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	...	...	...	...	1	2	
Hemorrhagia ex umbilicum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	....	1	
Wounds, Injuries and Accidents.																											
Ambusta	2	3	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	3	4	†Explosion of boiler of steamer Ocean Wave.
Ambusta†	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21	6	1	2	...	...	...	...	...	...	22	8	‡Resulting from lodgment of a bone while the subject was dining, death occurring almost instantaneously.
Asphyxia	...	...	...	...	...	...	...	...	...	...	‡1	...	...	...	...	...	...	...	...	...	...	‖1	...	2	1	3	
Compressus	...	...	...	...	‖2	...	...	...	*c*1	*e*1	...	...	...	...	...	...	...	...	...	...	...	...	*i*1	...	2	3	
Asphyxia demersorum	...	...	...	1	...	2	4	...	...	...	1	1	2	...	2	1	2	...	...	...	...	...	2	1	13	6	
Concussio*l*	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	....	
Compressus cerebri	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....	1	
Fractura calvariæ	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	‖1 by falling timber, and 1 by railroad accident.
Vulnus Sclopeticum	1	...	...	...	...	...	...	1	...	...	*s*1	...	*r*1	...	...	...	*i*1	...	...	*r*1	...	...	*r*1	...	5	2	*c*By railroad accident.
Exsectio ovarii	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....	1	*e*By machinery.
Fulminis ictus	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....	1	*i*By street railroad car.
Vulnus juguli incisum	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....	1	*l*Accidental.
																											*r*Homicide.
																											*s*Suicide.

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Unclassified or Undefined.																										
Mors voluntaria	...	1	...	1	...	...	1	1	...	...	...	...	...	...	t1	...	...	...	...	...	...	...	...	2	3	t Arsenic.
Homicidium	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	z1	3	1	z Stab.
Gangræna senilis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	
Senectus	1	...	...	...	...	1	1	1	1	...	...	...	2	1	2	...	...	1	...	...	...	2	...	...	7	6
Debilitas et asthenia	1	1	1	...	...	1	1	1	1	...	...	...	...	...	1	1	...	...	1	1	...	...	...	...	6	5
Innominatum	10	7	2	11	2	6	...	4	1	7	...	1	...	1	...	1	...	3	...	...	...	...	...	1	15	42
Inanition	1	...	...	...	1	1	...	...	...	...	...	...	...	1	2	...	...	3	2	...	...	1	2	1	8	7
Totals	64	51	28	43	45	52	41	51	40	51	38	46	58	60	86	63	48	66	56	58	57	39	56	49	597	629

TOTAL DEATHS FOR EACH MONTH.

January	115	July	118
February	71	August	149
March	97	September	114
April	92	October	114
May	91	November	76
June	84	December	105

TOTAL DEATHS FOR THE YEAR 1226

SEXES OF DECEDENTS.

Of White Males	372	Of Colored Males	294
Of White Females	225	Of Colored Females	335

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AGES AND COLORS OF DECEDENTS BY MONTHS.

AGES.	January.		February.		March.		April.		May.		June.		July.		August.		Septemb'r		October.		November		December		Totals.		TOTALS OF ALL COLORS.
	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	
Under 1 year.....	2	2	6	9	2	10	7	6	11	13	12	6	7	13	8	13	4	17	7	16	7	12	7	17	180	134	314
Over 1, under 5...	2	7	.....	2	5	5	2	1	5	5	3	8	6	13	7	8	3	7	5	10	1	8	3	2	42	76	118
Over 5, under 10...	3	4	.....	1	3	2	1	2	1	.....	.....	2	2	3	3	1	3	4	.....	6	3	.....	1	.....	20	25	45
Over 10, under 20...	6	7	.....	6	1	2	1	6	2	2	1	2	3	3	14	6	4	4	1	.....	2	3	2	4	37	45	82
Over 20, under 30...	14	9	3	7	5	9	10	6	5	7	3	9	6	9	10	11	6	13	4	4	6	1	13	6	85	91	176
Over 30, under 40...	10	9	3	8	6	5	9	8	3	4	5	3	7	3	11	6	8	3	11	6	7	.....	6	4	83	59	142
Over 40, under 50...	4	5	6	1	11	2	4	7	4	2	6	2	12	4	10	1	2	3	10	5	2	2	7	3	78	37	115
Over 50, under 60...	13	.....	3	.....	3	3	4	3	4	1	4	.....	5	3	6	8	6	2	7	2	6	4	4	4	65	30	95
Over 60, under 70...	4	2	3	2	4	2	.....	.....	3	5	1	2	2	1	2	3	2	.....	6	2	.....	.....	6	2	33	21	54
Over 70, under 80...	2	.....	3	.....	2	.....	.....	2	1	2	1	2	1	.....	2	2	2	.....	1	.....	1	2	.....	2	15	12	27
Over 80, under 90...	.....	.....	.....	.....	.....	.....	1	1	.....	1	.....	1	2	.....	1	.....	1	1	.....	.....	.....	1	2	1	7	6	13
Over 90, under 100...	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	3	4
Over 100.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	1
Unknown	1	.....	.....	2	1	4	.....	4	.....	4	.....	3	2	.....	5	.....	1	.....	1	.....	1	.....	.....	.....	12	17	29
Total.....	62	45	26	38	43	45	39	46	39	46	36	40	55	53	79	59	42	55	53	51	36	34	51	45	561	557	1118
Stillborn	2	6	2	5	2	7	2	5	1	5	2	6	3	7	7	4	6	11	3	7	1	5	5	4	36	72	108
Total.....	64	51	28	43	45	52	41	51	40	51	38	46	58	60	86	63	48	66	56	58	37	39	56	49	597	629	1226

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REPORT ON THE SURGERY OF MOBILE COUNTY.

By J. T. GILMORE, M. D., Professor of Surgery in the Medical College of Alabama.

In submitting the following report of the surgery of Mobile, I have not gone outside of my own experience, and have simply thrown together hurriedly and disconnectedly my surgical cases during the last year, from notes taken by my young and promising assistant, Dr. Rhett Goode. The majority of the cases are reported in his own language from his note book.

AMPUTATIONS.

History of thirteen cases of amputation—three of thigh, five of leg, three of arm and three of foot. Of the three arm amputations, two were through the shoulder joint.

Case 1st.—John Rupert, (amputation thigh—recovery) from Baldwin county, Ala., aged 23 years, at the Providence Infirmary; railroad injury; fracture of tibia middle third, and of the fibula, a few inches higher up, right leg.

This accident happened at Pollard, on the Mobile and Montgomery railroad. Mr. Rupert, with several other young gentlemen, jumped on the *cow-catcher* to ride a few hundred yards. The engine ran into a cow, which was thrown up, knocking Mr. Rupert off and fracturing his leg. This was dressed by a physician in the neighborhood, the apparatus used being a double inclined plane. By some means the fragments became displaced and were allowed to remain so until fibro-ligamentary union took place; the upper fragment over-riding the lower more than an inch. About three months after the reception of the injury, he came over to Mobile for treatment. His leg was shortened about two inches, and very painful; he was unable to let it hang down, or rest in any position save in an elevated one. The adhesions were so firm that they could not be broken up, therefore it was determined to resect the bone. This was done April 15th, with the assistance of Drs. Wilson and Collins.

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An incision was made along the crest of the tibia, the bone exposed, and the chain of a chain-saw passed around it by means of a curved needle. Both fragments were sawed through at the same time, as they over-lapped each other. There was very little more shortening than before the operation. The ends of the bone were wired together with silver wire. The leg was put up in a common fracture-box with bran, and dressed with carbolized oil. About ten days afterwards he had an alarming secondary hemorrhage. For this amputation of the leg at the point of election below the knee was performed. He had pyemia angioleucitis and synovitis of the knee-joint. Notwithstanding all this, the stump healed by granulation, but the knee-joint became more painful and inflamed. He took iron and quinine, but the remedies apparently had no effect. About a month after the second operation, there was evidence of pus having formed in the joint and lower part of the thigh. An opening was made, and pus found to be infiltrated through the muscles and joint. The lower part of femur was denuded of periosteum. Under these circumstances a second amputation was imperatively called for, although it afforded but little hope of relief; for he was so emaciated that he could not turn over in bed. Not to do the operation was certain death; whereas its performance would give him a chance for his life. With the assistance of Dr. France and Mr. Heard, the thigh was amputated through the middle third, anterio-posterior flaps being made. Owing to the poisoned condition of his blood, the wound was left open and dressed with oakum, saturated in the officinal solution of carbolic acid, and was not closed until granulations could be seen at every point. Notwithstanding all the untoward symptoms that manifested themselves throughout the progress of this case, the patient made a good recovery.

Case 2d.—During the latter part of the war, Mr. J. Askew, a young man, scarcely twenty years of age, in perfect health, and of fine physical development, received a severe wound through the condyles of the femur. The ball entering the inner aspect of the thigh, just above the articular surface, ranged obliquely upwards and outwards, and emerged on the outer aspect at about the junction of the outer condyle with the shaft. The knee joint did not at any time participate in the diseased action. From the time of the receipt of the injury, up to the time of the amputation, the wound did not cease to discharge. Occasionally small pieces became detached and passed out, showing the diseased condition of the bone. In the spring of 1867 he came to the city and placed himself in charge of myself and Dr. J. C. Nott. At that time his general health was unimpaired. The outer wound was discharging, the inner one having healed. On passing a probe we found that it penetrated the substance of the femur, and rough bone was readily detected. Our diagnosis was central necrosis of the femur, and whilst we doubted whether or not it was detached, we thought it best to enlarge the opening through the involu-

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crum with a small trephine and gouges. This we did, but found no loose bone. We decided to wait, having furnished a free outlet for any pieces that might become detached. I saw the gentleman frequently afterwards, as often as once or twice yearly, but could at no time satisfy myself that the disease had become limited, and that the necrosed bone was separated. His general health remaining good, I did not think it well to insist upon operative interference, until last spring. He came to Mobile, forced to seek relief on account of his general health. He had an anxious care-worn look; had lost his usual freshness and vigor; had a muddy tawney discoloration of the skin; complete failure of appetite, and daily suffered from rigors, followed by exacerbations of fever. Any educated medical eye would have at once recognized that there was at work some septic agent. Quinine did not control his symptoms. The wound would occasionally become inflamed, and then the rigors and fevers, followed by copious sweating, grew worse. This constant drain and irritation had commenced telling on his general health. With the assistance of Drs. Sawyer, Ketchum and Woods, I reöpened the old incision, and found the entire bone denuded of periosteum; and in the canal made by the ball, I could pass the probe, revealing a roughness, indicating disease at every point. Appreciating his constitutional complications, knowing that these long continued discharges from diseased bone were likely to ultimate in degeneration of the liver or kidneys, and foreseeing the probable development of pulmonary tubercle, I advised amputation. This was concurred in by the other gentlemen present. I converted the incision already made into antero-posterior flaps, and sawed through the bone some inch and a half above the condyles. His nervous system was so shattered that I had great apprehensions of trouble ahead. The surgical fever following the operation was not great. His nervous system responded readily to chloral. Everything was apparently well until the eighth day, when there came a little oozing of blood; on the next day there was a reäccession of the bleeding; on the tenth the hemorrhage was terrific. He was at the Providence Infirmary, in charge of the Sisters of Charity, and to their careful watching he owes his escape from death, from secondary hemorrhage. The slight bleeding on the eighth, with the restlessness that accompanied it, gave me ample premonition of what would likely occur; and I had made preparations. I had arranged a field tourniquet, which enabled the nurses to control the hemorrhage until I arrived. I at once injected with a syringe the liquor ferri persulphatis into the wound, the greater part of which had united, and then bandaged the thigh tightly, having applied a graduated compress over the vessel. This controlled the bleeding, which did not recur. Irritative fever set in, and as soon as I could, safely, I removed the large clot that the iron had formed in the wound, and followed it up with carbolized washes. The ligature on the femoral artery separated on the twentieth day. His

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condition, both general and local, improved very slowly, The irritative fever stubbornly refused to yield to quinine. The appetite did not return after the hemorrhage, although he did not lose a large amount of blood. His tongue commenced to assume a typhoid appearance. I readily saw that unless my patient's habitat was changed pyæmia would soon develop its unmanageable complications. As soon as the wound had sufficiently healed to enable me to feel that he was safe from further bleeding, I sent him to his home in Columbus, Miss. The change of air, and the careful attention of his accomplished family physician, Dr. McCabe, soon restored him to perfect health. An examination of the diseased structures fully justified the operation. The cancellated structure of the condyles was entirely obliterated—had undergone that transformation known as *sclerosis*. Their external surfaces were roughened, and on cutting through them with a saw, we found a considerable cavity, doubtless formerly occupied by sequestra—this being the point from which the necrosed bone had been extracted. The canal of the ball passed through this vicinity, the canal and cavity being rough at every point.

Case third.— *Amputation of Leg through Knee-joint.*— Gun-shot wound.—On Christmas Eve night I was summoned in haste to see Mr. Charles Bleck, who had accidentally shot himself in the knee-joint. I found that the ball of a small pistol had entered the outer aspect of the thigh, some three inches above the knee; had passed under the quadriceps femoris tendon, and penetrated the joint. Closely examining the articulation, I found the ball floating in the joint, and causing him to stand erect, succeeded in crowding it out beneath the external lateral ligament, and removed it by incision. I at once informed his family of the extreme gravity of the accident, and predicted that he would lose his leg—indeed, told them that were it not for his youth, he being only twenty-two years of age, and in general good health, I would insist upon amputation at once. I closed up the incision, through which I had extracted the ball, carefully with adhesive straps, applied a bandage, placed the limb on a pillow, slightly flexed, gave directions to keep the leg perfectly quiet, and to apply constantly cold water, by means of towels, to the parts locally; and ordered an opiate to be given internally, with instructions to repeat it as often as was necessary to control pain. His condition promised well for a few days, but synovitis set in with which his constitution sympathized considerably. As soon as the severity of the fever that inaugurated the inflammation subsided, and pus commenced forming, I proposed amputation, which was not assented to. The purulent secretion soon filled the joint, poured out of the incision, and burrowed along the track of the ball. I followed it up at every point, evacuating it whenever it accumulated so as to be detected. Of course this local mischief was accompanied by fever, and a rapid giving away of the vital powers. Finally, three weeks after the receipt of the wound, his friends begged for the

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amputation. By this time he was apparently moribund, muttering unconsciously, covered with a cold profuse sweat, and almost pulseless. With their consent, I invited my friend Dr. Ketchum, to see him; for I really did not see any sense in operating upon a dying man. I secured the assistance of a number of medical students in attendance on lectures at the College. Dr. Ketchum administered the chloroform so as to produce the least possible depression, holding it at a considerable distance from the nose. Finding that even so much diluted with air it was adding to his collapse, it was discontinued. The students with their thumbs controlling the femoral artery, I did an operation that I have performed a great many times, commencing the incision just below the patella with an amputating knife, carrying it obliquely downwards so as to reach the posterior part of the leg, some two and a half inches below the joint, at which the incision was commenced, and extending it around carrying it then obliquely upwards until the point of incision was reached, thus making a circular ovoidal skin covering. I then divided the muscles and sawed through the condyles without opening the medullary canal. This makes a beautiful stump, the contraction of the ham-string tendons pulling up the elongated skin flap taken from the calf, to a point corresponding with the front covering. I neglected to mention that before we commenced the operation, he was raising a sooty secretion, that seemed to be pouring out into his stomach. During the operation he was plied with beef tea and brandy, and immediately after the vessels were ligated, he emptied the contents of his stomach, and with it threw up a large quantity of black vomit. Knowing that everything depended upon arousing his secretions, and aiding his emunctories to rid his blood of the effects of purulent absorption, Dr. Ketchum and myself agreed to give him five grains of calomel. In this moribund condition he remained for about four hours after the calomel was administered; finally, under its influence, the irritability of the stomach disappeared; it now tolerated beef tea and brandy, and the next morning, twenty-four hours after the operation, every unpleasant symptom had disappeared, except his extreme feebleness. His progress towards recovery, was uninterrupted until two weeks after the amputation, when the ligature on the femoral came away. Profuse hemorrhage set in. His uncle happened to be present, who seized the vessel above and controlled it until I arrived and applied a graduated compress and bandage, as detailed in the preceding case. After this he had no further trouble, save some exfoliation of bone.

These three cases of amputation of the thigh are strikingly suggestive. The failure of union in Mr. Rupert's case of fracture of both bones, offers material for reflection. An ununited fracture of both bones of the leg in a young man of the age of twenty-three, in vigorous health, with every function in perfect order, is a problem for solution. I happen to know the physicians who first

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dressed his fracture, and know them to be competent and painstaking, and think the overlapping of fragments due to the failure of union, for there was not the least deposit of callus about the site of either fracture, and as soon as the extension and counter extension were removed the overlapping took place. Hence we must look for the cause elsewhere. The condition must find its solution either in some constitutional cachexia, or some peculiarity of the injury. Whilst this young man was in apparently perfect health, I know that his family record is not a good one on his father's side. One of his uncles died of encephaloid cancer, and several of the other members of the family died of pulmonary tubercle. There was nothing special in the nature of the injury to prevent union. There was no great shock, and no harm done to the nervous centres. The fracture was a simple oblique fracture, as described. Therefore, in reviewing the case, we must believe that there was in the young man some constitutional dyscrasia that prevented the union of the fragments. After the operations performed, the secondary hemorrhage furnishes material for reflection. Mr. Askew's case is peculiarly typical of secondary hemorrhage as we usually see it, commencing by a little leak, which recurs daily, and in many cases that I have seen of these bleedings, during the late war, there seemed to be a marked periodicity, until finally the flow becomes frightful, evidently from some large trunk. It seems to me that pathologists have not gone as fully into the real cause of secondary hemorrhage as its great importance demands. That prolific source of death in surgical cases, viz: blood poisoning, plays its part in producing secondary hemorrhage. In arresting bleeding we imitate nature—we endeavor to form a clot either by some styptic or by pressure. The most frequently employed means is the pressure of the ligature. If the clot in the cut end of the vessel becomes sufficiently firm to resist the heart's action by the time the ligature separates everything goes well; but if otherwise, the clot not being firmly organized, at first a little leak commences by the side of the clot. This gradually enlarges until the whole clot is swept away, precisely as we see embankments of loose dirt damming water—first a little percolation occurs; this gradually enlarges, and finally the whole tumbles, carried along by the current of water, which resumes its wonted channel. Thus the dam of an artery gives away and secondary hemorrhage sets in. Now, why is it that the clot does not become sufficiently organized after ten days have elapsed, in some cases. Here blood poisoning plays its part. In Rupert's case, as in Askew's, the hemorrhage was preceded by irritative fever, the paroxysms coming on at night. Quinine did not control them, nor was there anything as yet in the character of the suppuration that denoted the harm that was being done. There was no pent up pus, and the parts were constantly moistened with carbolized solutions. It has often occurred to me that chloroform and chloral had something to do with it. I have noticed that those

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surgeons who dreaded chloroform least, and gave it even in dressing surgical wounds, were more unsuccessful than those who dreaded it most. Professor Nathan R. Smith, of Baltimore, has written an article that expresses my views of these agents. In an article on the "Toxical Effects of Chloral," in the January number of the London *Lancet*, he says:

"Chloroform, we know, when inspired, exerts its influence upon both brain and heart. In the numerous cases in which it has caused death by inspiration this result has been produced by its interrupting the circulation. Secondly, it appears, when given in small doses and continuously for some time, to induce a form of toxæmia similar to that caused by the continued administration of ergot. If chloroform, developed in the blood from chloral, is productive of such disastrous effects, primary and secondary, can the direct inspiration of chloroform be as innocuous as it is thought to be? The profession are sufficiently aware of the fatal primary effects of chloroform in numerous instances. It has undoubtedly caused death in many cases in which it has been given with every caution in regard to quantity and mode of administration—in cases, too, where there existed no malady of the brain or heart to forbid its use. In some cases it has been administered fatally in which it had been previously breathed with good result. But I would more especially call the attention of the profession to the chronic poisoning of the blood which I believe results from its free and repeated use. I have administered chloroform perhaps as often as any other surgeon in America, both in hospital and private practice, commencing its use from the time of its discovery and its first application as an anæsthetic. Indeed I have been constrained to use it in many cases in which my judgment was adverse to its employment, for such is the overweening confidence in its effects that many patients refuse operations except under its influence. But the more I have used chloroform the less has my confidence become in its innocuousness. When I compare the results of my operations performed before anæsthetics were employed with those performed during the last twenty-two years by the aid of chloroform, I am satisfied that unpleasant secondary results were less frequent during the first period than they have been under the use of that agent. I allude to secondary hemorrhage, pyemia, erysipelas, and hospital gangrene. Whoever will take the trouble to look over the medical journals and retrospects of the last ten years will discover that pyemia or septicæmia occupies far more space in the surgical records than it did before anæsthetics were so generally employed. When chloroform is administered during the period of an hour or more, as it frequently is, it undoubtedly enters copiously into the circulation, not only powerfully impressing the brain and heart, but modifying the constitution of the blood and the function of the capillaries."

We all understand that in the constitution of bleeders we are to suspect some dyscrasia. In severe hemorrhages that occur independ-

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ently of local trouble, we are careful to look after the urinary secretion, and to examine searchingly for albuminuria. Indeed in all cases of troublesome *post partum* hemorrhage, when the bleeding recurs repeatedly after the expulsion of the placenta, we will find albuminous urine, or at least such is my experience. We who live in yellow fever cities and malarial districts know how often hemorrhage from mucous membranes are produced by the poisons that develop these fevers. Indeed every educated physician appreciates how prone febrific poisons are to beget a hemorrhagic tendency. This reasoning clearly foreshadows the opinion that in all the three cases of secondary hemorrhage, blood poison was the immediate cause. In both Rupert's and Askew's cases, I believe chloral had something to do with it. The poisoned condition of Bleck's system was fully evinced by the sooty regurgitations from the stomach, and the free black vomit. I am convinced that the calomel saved his life, and I would do violence to my feelings were I to suppress my indebtedness to Dr. Stone of New Orleans for his valuable hints in regard to the use of calomel in such cases. This case beautifully illustrates how a poisoned condition of the blood, from other causes than yellow fever, may produce black vomit. The pyæmic condition of his blood favoring hemorrhage furnished the bleeding through the tissues of the stomach when the mucous membrane was denuded of its epithelium, caused by the vomiting. It poured out guttatim and was acted upon by the gastric juices, precisely as we have it in yellow fever. Indeed, these septic poisons that we have in surgical cases may produce hemorrhages precisely as we see them in broken down constitutions of the system from other causes, whether scrofulous, scorbutic, or febrific. My friend and colleague, Dr. Owen related several years ago, to our local society, the history of a patient of his that had thrown up black vomit from the bite of a rattlesnake, thus showing how this hemorrhagic tendency is begotten by septic agents. After the second amputation in Rupert's case I secured the femoral artery with silver wire, cut off both ends short, and managed the case as has been described. The wire has never given him any trouble.

One of the interesting points in Mr. Askew's case was the pathological changes that had taken place in the diseased bone. My experience tells me that this condition of eburnation that I have so often seen following gunshot wounds, described by the name of sclerosis of bone, does not occupy that prominence in surgical works that its frequency merits. Of course, we all comprehend that the inflammatory process may develop the same changes in the osseous tissues that we see in the soft parts, but these changes are for the most part passed over under one general head, "*caries*." By caries we of course comprehend molecular wasting of bone, without designating the structural changes that precede the molecular separation. This is sometimes attended by softening and sometimes by hardening. Now the change should be well appreciated by a surgeon, in

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many instances before determining the course of practice he will pursue. Sclerosis is indeed a more formidable disease than softening, and, when it has taken place, usually the vitality of the part is so lowered that it cannot resist carious encroachments.

During and since the war, I have operated a great many times for diseased bone, resulting from gunshot wounds, and in many instances the results have been foiled by caries setting up in the sclerosed bone after the removal of all necrosed bone, even when no rough or carious spots could be detected remaining. The shock and the disturbed condition of the circulation in osseous structures from gunshot wounds seem to invite sclerosis ossium. While on this subject, I might mention a case I saw a number of years ago. Dr. Parker, of Starkville, Miss., invited me to see a patient of his— a young widow, of about 23 years of age. Three years previously, whilst standing in front of a buggy, the horse attached to it started off, and caused the forewheel to pass over the front part of one of her feet. She gave it but little care, the vehicle being a light buggy without a top and not paining her scarcely at all until more than two weeks afterwards. Then a dull, heavy aching attacked the metatarsal bone of the great toe. This gradually increased, and from that time she suffered atrociously; she looked careworn and wasted, had become exceedingly nervous, and could not bear any one to walk over the floor without causing her more or less torture. An examination revealed nothing, except tenderness. The menstrual function was somewhat deranged, and it occurred to me that it might be hysterical neuralgia. Weighing the case well, I determined to make an incision down upon the tender bone and examine its condition. I found the periosteum not much thickened, but loosely attached, the substance of the bone completely softened. Now, this was no more caries than fatty degeneration is ulceration. But it was fatty degeneration, just as we see in soft parts when inflamed. I need not tell you that I removed the great toe with its metatarsal bone and cured the poor woman of her suffering. Hence, I insist that sclerosis and softening are equally the precursors of caries; and I desire, by the detail of these cases, to impress you with the frequency of sclerosis after gunshot wounds, and that it explains why the removal of all detached spicula so often fails to arrest discharges caused by bones diseased from wounds inflicted by firearms.

Amputation arm at shoulder joint— railroad injury— recovery. During Christmas week I was called to see Wm. Leach, at the City Hospital, who had a few hours previously fallen from the top of a freight car, being a brakesman on a freight train, and the wheels of several of the cars had passed over his right arm. Upon making a careful examination I found it crushed as high as the tuberosities, the soft parts badly mutilated, and bleeding from every opening through the skin. No pulsation could be felt in the axilla. The hemorrhage being arterial and profuse, I felt sure that the axillary artery was ruptured. The fourth, fifth, and sixth ribs of the same

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side were broken, and the pectoral muscles were severely contused and distended with blood and air; the right lung was emphysematous, showing that it also participated in the injury. Without awaiting any reäction, I determined to remove the arm at the shoulder joint articulation, by the most expeditious method. This I did with the assistance of a number of medical students, by transfixing the deltoid with a long amputating knife, and making a posterior flap; then sweeping around the head of the humerus, disarticulating it, and making the anterior flap, we found as predicted, the artery ruptured. In his collapsed condition, but little chloroform was required to produce insensibility. His reäction was slow, yet in forty-eight hours was fully established. The emphysema of the lung and chest slowly disappeared. His recovery was protracted by a large abscess that formed under the pectoral muscles.

Amputation Arm at shoulder joint—recovery.—Patient Master Pierrard, aged fourteen years—gun-shot injury of the right arm, fracturing the humerus as high up as the surgical neck. The arm was removed by Larrey's method at the shoulder joint.

Mr. Gauldon—railroad injury—amputation of arm, upper third, flap operation. Assisted by Dr. Wm. H. Ross, and patient afterwards treated by him; made a good recovery.

James Simes—amputation of leg—railroad injury, causing fracture of the right leg through the ankle joint, both malleoli fractured, and the tibia passed through the soft parts, presenting itself on the inner side of the leg, pushing the extensor tendons in front, and flexors behind. The internal malleolus was detached entirely. The patient was at Citronelle, thirty miles from the city. Amputation of the leg in the lower third was performed; circular method. Patient promptly recovered.

Mary Andres, Creole, aged 55 years; syphilitic caries of tibia. Amputation of the leg—recovery. There was a *fatty degeneration* of all the tissues, arteries not excepted. The posterior tibial artery gave way under the ligature, owing to its softened condition, making it necessary to use acupressure to control the hemorrhage. The flaps were not brought together, but left open for several days, until all the slough came away, and granulations covered every part. They were then firmly strapped up, and union by the moddling process obtained.

Mr. Spencer, Mobile and Ohio Railroad, at Sisters' Infirmary, May 15th, railroad injury of the foot. Pirigoff's amputation performed. Death from gangreen four days after the operation.

Negro man, at City Hospital, aged 43 years, syphilitic caries of tarsal bones. Pirigoff's amputation performed. Death.

Negro man, at City Hospital, severe burn of both feet; double amputation at the point of election, below the knee; performed simultaneously, Dr. A. P. Hall operating on one leg and Dr. Gil-

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more on the other. The patient had epileptic convulsions, and died of secondary hemorrhage.

William Asberry, colored, at City Hospital, thirty-five years of age, railroad injury of the foot. Two weeks after the injury, Lisfranc's operation through the tarso-metatarsal articulation was performed. The flaps were left open and dressed with carbolized oil. After granulations could be seen covering them, they were brought together by strips of adhesive plaster. Made a good recovery.

All the foregoing cases have been treated upon a general plan. When I saw there was no prospect of obtaining immediate union to any considerable extent, the practice has been to keep the flaps open until healthy granulations studded every part of the raw surface, and oakum saturated with carbolized water was closely applied to them to keep the secretions absorbed. When fever existed the dressing was changed every few hours. The flaps always were carefully supported by bandages and adhesive straps. As soon as healthy granulations appeared everywhere, all the smaller ligatures were pulled off, and the parts approximated by supporting straps of adhesive plaster with a properly applied bandage. One of the greatest elements of success in the management of surgical wounds being to inflict as little pain as possible. I have in no instance employed sutures in the cases treated as above described. I believe it would be well also in these cases to use the metallic ligature on the main vessel, cutting the ends short and allowing them to become embedded as reported in Rupert's case.

RESECTIONS.

Resection of hip joint.—During the earlier part of the spring, Mr. Blanton, of Pickens county, in this State, placed his son under my care for caries of the hip joint, of two years duration. I found him pale and anæmic. The leg and thigh of the diseased side very much swollen, and at several points on the inner and outer side of the thigh there existed a number of fistules that poured out in large quantity creamy pus. This discharge had lasted so long, without evidence of improvement, and the patient being only about twenty years of age, and free from disease in every other respect, with his digestion and circulation as good as it could be under the circumstances, I resolved to try re-section of the joint. The operation was done after the usual method, by a linear incision just external to the greater trochanter. The head of the bone was found lying loose in the acetabulum. The neck had disappeared under the destructive action of the disease. I removed the head and sawed off the trochanter to prevent its prominence interfering with the healing of the wound. The patient was rendered entirely comfortable by the operation. All hectic disappeared, the appetite improved; the muddy hue of the skin, and the anxious expression of the countenance

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rapidly gave way. The swelling of the limb abated; indeed, in a weeks' time he was fairly convalescent; the wound being perfectly healthy. On my evening visit of the 11th day, I found him complaining of his stomach, stating that his dinner had not agreed with him. I ordered a little brandy, thinking his stomach was simply over-taxed. During the night he threw up copiously. During the next day, he remained very much depressed, and passed darkish urine. The day succeeding he complained of some chilly sensations. The turbidity or darkness of the urine was markedly increased, with, however, a trace of albumen. On the fourth day after the attack of sick stomach commenced, he died. His mind up to the last remained clear, nausea was constant and uncontrollable; he vomited up everything he swallowed after the second day of his unpleasant symptoms. He died evidently of some poison preying upon his nervous system. Now what was it? I had grave suspicions during the last day of his sickness that it was from the constitutional effects of carbolic acid, but, in the absence of further testimony, I signed his death certificate malarial fever. Although from a chill and fever atmosphere, he had not suffered from any form of malarial fever. Since reading an article in the July number of the American Journal, by Surgeon Bill, of the United States army, on carbolic acid, when administered internally, I believe my patient died of the constitutional effects of carbolic acid. The urine is characteristic, it is true, of all blood poisons that profoundly affect the system, but the absence of periodicity of febrific exacerbation, the continued cool skin without collapse until a few hours before death, and his unclouded mind, are symptoms unlike malarial and pyæmic fevers. After the operation, in order to guard against pyaemia, I kept the wound open and kept it stuffed with oakum, wet with carbolic solution, and also syringed it out with a dilution of the officinal solution, always guessing at relative proportions; and when the perverse symptoms set in, not dreaming of its poisonous effect, I used the undiluted carbolic solution, and kept the wound filled with quinine, to combat any malarial complication, his stomach not tolerating anything in the way of food or medicine. Hereafter I will, if I use carbolic acid upon large, raw surfaces at all, employ it very guardedly.

Sid. Williams, a lad of nine years, was thrown from a horse and brought to the city to consult Dr. F. A. Ross. Dr. R. asked me to see the case with him. We found the elbow joint badly fractured, both condyles knocked off, and the upper fragment of the humerus protruding some two and a half inches through the lower part of the belly of the biceps and brachialis anticus muscles. The articulation was opened posteriorly. After consultation, we determined upon resection—sawed off the protruding portion of the humerus, which was stripped of its periosteum, and by a straight incision, made by extending the posterior opening into the joint, removed the condyles and sawed off the olecranon and the articular surfaces of

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both ulna and radius. His recovery is perfect, with a useful arm and joint. The condyles have been reproduced almost entirely, with but little shortening of the humerus. His father remarked to me, but a few days ago, that his injured arm was almost as good as the other.

Mr. Lema, Spaniard, aged 33, while engaged working in the second story of a store down town, fell through the hatchway, causing a compound fracture of the inferior extremity of the humerus, implicating the joint. The condyles were separated from the shaft; a straight incision, about four inches long, was made posteriorly, and the ligaments of the joint divided. By forcibly flexing the arm the articular surfaces of the radius and ulna were exposed, and sawed off with a chain saw. The detached condyles were dissected out and the extremity of the humerus smoothed off. Patient recovered with a useful arm.

Mulatto woman, City Hospital, constitutional syphilis, large sequestrum in the cancellated structure of inferior extremity of the humerus, involving the joint. Resection was performed, with removal of the sequestrum. Recovery good.

Mrs. Ford, aged 33, City Hospital.—Resection of the ankle joint; scrofula; had caries of the bones of the ankle joint, also destruction of synovial membrane. Her appearance was haggard, in the extreme; pulse soft and vibrating. After being put thoroughly under the influence of chloroform, a probe was passed in one of the fistulous openings and the characteristic roughness of carious bone easily felt. Knowing full well the many inconveniences attending a direct amputation, especially to one having to work for a living, I determined to take the risk and resect the joint. This was accordingly done, the operation differing in some respects from the usual one. Two perpendicular incisions, about three inches in length, were made laterally, the muscles and integument shoved aside, and the internal and external malleoli removed with bone pliers. This giving a free opening to the cavity of the joint, the remaining diseased bone was removed with the chain saw and gouge. The wound was dressed with lint and the leg suspended by means of Nathan R. Smith's Anterior Splint. The patient made a good recovery and can now walk very well.

Excision of the Entire Half of the Inferior Maxillary for Necrosis—Recovery.—Patient, Peggy Ross (colored), age 15 years. She was of a scrofulous diathesis, and had been suffering for more than a year, the pain at first being like toothache. At the time that she was admitted to the City Hospital there were three fistulous openings communicating with the bone. With the assistance of Drs. Collins and Toxey, the operation was performed. An incision was made just below the lower margin of the bone (so as to prevent exposure of the cicatrix, the patient being a female), extending from the symphisis to a little beyond the angle of the jaw. Then, after carefully dividing the periosteum and preserving as

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much of it as possible, by scraping it off from the diseased bone, I proceeded to remove all of the detached pieces of dead bone with forceps, there being several in number. It was here found that the disease had entirely separated the bone into two parts near the angle. Seizing the perpendicular portion or ramus with a pair of lion-jawed forceps and making some traction, I succeeded in removing it in mass with the condyle and coronoid process, leaving behind and attached at every point the periosteum. Drawing one of the incisors, a chain saw was passed around the bone at the symphisis, and the remaining part of the horizontal portion easily removed. The wound was plugged with lint; this was removed the next morning and poultices applied for a few days; after this, solution of carbolic acid was used.

DISLOCATIONS.

At one of the College clinics last fall my friend, Dr. C. M. France, of the city, placed in my charge Sarah Stark, a colored girl 16 years of age, who had suffered from a dislocated hip for over eight months. The limb was found slightly flexed and everted, with more than two and a half inches of shortening. An examination of the hip showed that the trochanter was pulled up under the gluteal muscles, and the head of the bone could be felt on the dorsum in front of the trochanter. The girl, whilst playing "seek and find" with some of her comrades, in turning the corner of a house, struck her left hip against the corner of the house, which completely disabled her, laying her up, and from that time she was unable to walk. The diagnosis was an anomalous dislocation of the hip. The force applied to the upper extremity of the hip by everting it produced the dislocation, which was regarded only as a modification of the forward displacement upon the pubis. If we will examine the skeleton, we will readily appreciate this dislocation—indeed, it is the second one I have witnessed; and, from these two cases, I am inclined to believe that it is more frequently met with than one would suppose from reading our works on surgery and monographs on dislocations.

As in presentations in labor, the multiplicity of presentations being but modifications of a few, so in dislocations of the hip these unusual ones are really varieties of the typical forms.

You can readily understand, by recalling the anatomy of the skeleton, that a force applied as designated would produce the dislocation described, and, from its resemblance to that forward on the pubis, might be regarded as a modification of this dislocation. I fully appreciated the stuructural changes that had in all probability taken place—the acetabulum being filled up, and that the bone had formed a new bed. Yet, reviewing the girl's youth; her physical development; the absence of all cachexin that might vitiate her osseous system, by producing brittleness of the bones; and with the case of Prof. Lewis A. Sayre, of New York, as a precedent, I deter-

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mined to hazard an effort at reduction by manipulation. The patient being chloroformed and placed on a firm operating table, I first had the pelvis firmly steadied by a member of the class, and then, by the usual method for reducing dislocations on the dorsum, after breaking up by a good deal of force all of the newly formed adhesions, the trochanter was restored to its natural site, and the length of the leg perfectly corresponded with its fellow. It did not return with that distinct, sharp noise that is usually heard in recent cases. I satisfied myself, from the relative anatomical points of the two hips, that the head was resting on the acetabulum. Of course, this cavity was more or less obliterated by a fibrinous deposit. I then placed her in bed, the foot of which was elevated to make counter extension by the weight of the body, and applied Buck's extension. This I kept up for three weeks. At the end of that time she was allowed to get out of bed, and in a few weeks more she walked without a crutch. Now, two months have elapsed, and the use of the leg is entirely restored.

Sir Astley Cooper gives the history of a case that was reduced after five years had elapsed—yet lays down as a rule, that after eight weeks no effort should be made to effect a reduction. I admit the general rule of practice should be adhered to, yet the case now under discussion I thought was an exception, and the success resulting is proof of the wisdom practiced.

Dislocation of the Astragalus.—(Child of Mrs. McVoy, male, aged 3 years.)—The displacement had been neglected for more than a month after its occurrence, the little patient having croup at the time, or soon after the accident. Chloroform was administered, and the reduction of the dislocation easily effected by manipulation. Straps of adhesive plaster were used to keep the parts in juxtaposition. A few days afterwards, upon making an examination, it was discovered that the deformity was partly reproduced and the heel drawn up. The tendo achilles and the tendon of the peroneus longus were divided with a tenotomy knife. This removed all the opposing force, and the parts were maintained in position far more easily than before. The dislocation was not complete, but more of a sub-luxation, with rupture of the anterior and internal latteral ligaments of the joint. This made a good recovery.

Mr. Eberline—Dislocation of Astragalus—Age 19 years.—This accident was caused by a bale of hay rolling off of a dray upon his back, producing a dislocation forwards, with a direction somewhat inwards. The displaced bone formed a distinct tumor upon the instep, and upon making a close examination the outline of the bone could be distinctly made out. Putting the patient thoroughly under the influence of chloroform, the foot was forcibly extended upon the leg, and by manipulation the displacement was reduced.

OPERATIONS ON THE EYE.

In eye surgery, I have the records of twelve cases of cataract,

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operated by extraction. In the majority of instances I have resorted to Græfes' modified linear extraction as the preferable method in cases suitable for extraction. Experience with this operation obliges me to give it my adherence, and I shall in the future practice it exclusively, in preference to the old flap. In my twelve cases I have blinded only one eye, the case of diabetic cataract. In every other case, save one—Mrs. B.—the operations have been entirely successful. In her case, the result was damaged by an attack of billious colic, which so depressed her that she lost a portion of the cornea.

Cataract—Von Græf's Modified Linear Extraction.—Patient, Fanny, colored, aged 43 years; had been engaged cooking for several years; cataract of the left eye.—After a thorough examination and all the points in the case duly considered, extraction was thought the best operation. The incision was made just at the sclero corneal junction, the knife passing through very smoothly. There was no escape of the aqueous humor until the section was completed. As soon as this was completed it escaped, together with the greater portion of the lens substance. This was probably caused by the pressure made by the assistant who was holding the lower lid. The remainder of the lens was easily removed by making slight pressure on the ball.

A delicate pair of forceps were introduced and a portion of the iris seized, and with a pair of blunt pointed scissors evenly snipped off down to its very insertion. Some hemorrhage from the iris into the anterior chamber followed. A slight effort was made to press this out; but fearing that the manipulation might be more injurious than its presence, it was allowed to remain, trusting to absorption for its removal. The after treatment consisted in the application of Belladonna Ointment twice a day, and careful sponging of the lids with tepid water, to remove all secretions. Perfect rest in a dark room was enjoined for several days. On the fifth day the lids were opened and the corneal flap found to be perfectly healed, and the greater part of the blood in the anterior chamber absorbed. Some weeks after the operation she had deep seated pain in eye, and was put on blue mass and quinine.

Hard Cataract (Traumatic)—Von Græfe's Modified Linear Extraction—performed successfully.—Patient, William Osborne, mechanic, aged 43 years, native of Ohio.—In 1860, while engaged at work turning a piece of iron in the Greenwood Shop, Cincinnati, a scale was knocked off, which struck him in the left eye. This became inflamed, and was the source of a great deal of trouble. About two years after the injury, he first noticed that his sight was failing him. At the time he applied for treatment the pupil was largely dilated, from the long-continued pressure of the hardened lens on the iris. Ten days after the operation the patient could see well enough to distinguish a hand and count fingers.

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Mary Nott, colored, City Hospital, aged 70 years, senile cataract. —Von Græfe's operation performed on both eyes successfully.

Mr. Gilgrease, City Hospital, 54 years of age; soft cataract, with hard neucleous, diabetic.—Von Græfe's operation. Suppuration of cornea.

Names of other cases operated upon: Mrs. Overton, Mrs. Col. Portis, Mrs. Bowen, Rev. Mr. Gollard, Rev. Mr. Ramsey, Mr. Andrews, Mrs. Carrow, Antony Gowder (colored).

I have also operated on thirteen cases of strabismus, and in every case have obtained successful results. I practice in this operation, Græfe's method.

Report of Three Cases of Ectropium of the Lower Lid.—Mr. Lindsay, age fifty-five years, ectropium of the lower lids with complete occlusion of the lower puncta on both sides. The canals of these were restored by first slitting them up with a knife, then introducing probes after an opening was made. Owing to the exceeding tenderness of the parts the dilatation with probes was discontinued, and in its stead soft metallic wire was introduced and left in for several days. An operation for the relief of the ectropium was performed by excising all that portion of the everted conjunctiva, which was very much congested and indurated. This was done with the view that in healing the cicatrix would produce sufficient contraction to retain the eye-lids in their proper position. This was accomplished, and the result, using his own language, was a "perfect cure."

P. W. O'Neill, twenty years of age, at City Hospital, stricture of tear duct and ectropium of lower lid, caused by injury. The first operation was for the relief of the stricture. As soon as this was accomplished, an operation was performed for the ectropium. As a considerable part of the internal portion of the lid had been destroyed by ulceration, a V shaped portion of the lid, embracing the cicatrix, was taken out. To compensate for this, and to take off all tension, the external canthus and tarsal cartilage was divided; the parts were then easily brought together by sutures, and supported by strips of adhesive plaster passed over the cheeks and across the brow. The parts healed by immediate union, and the old gentleman's personal appearance greatly improved.

Lady, age twenty-three years, same operation as related above.

STRICTURES OF THE URETHRA.

In the spring of last year, Mr. L——, of Quitman, Miss., came to me with a tight organic stricture that had troubled him for nearly twenty years. He had suffered repeatedly from retention, and already his kidneys had commenced sympathizing. His age was over sixty. Upon examination I found two tight strictures, one just behind the scrotum, and the other at the bulb. I had his bowels well opened by a purgative, and advised him to sit in a tub of hot water several times daily before any effort was made to introduce an instrument. Now the question discussed in my mind was, what

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operation is preferable? He was advanced in years, with some albuminuria, and had complained for years in the region of the kidneys of pain. Fearing the shock of urethral fever, I determined upon continuous dilatation. I, after patient trial, succeeded in passing a No. 1 gum catheter; this I tied in; after forty-eight hours I passed readily a No. 4. After forty-eight hours more a No. 8. This was likewise retained, and in forty-eight hours was replaced by a No. 12. This I also retained, and afterwards retained the calibre No. 12 by metallic instrumentation. As soon as all irritation had subsided, I pushed along the dilatation gradually with metallic instruments, until the fullest size of the French scale could be admitted, viz.: No. 30, Beniqué. Now I firmly believe that any rude manipulation or internal urethrotomy, or forcible dilatation, would have produced urethral fever in the condition of his kidneys, and would have developed pyæmic symptoms, of which he would have died, even if he had survived the shock of its onset. Under this treatment the albuminuria rapidly disappeared, and the old gentleman is now perfectly restored to health.

Mr. L——, fifty years of age, of this city, had suffered from organic stricture for many years, was broken down in health, and had considerable albuminuria. I practiced continuous dilatation as above, with perfect success.

Not long since Mr. D——, from the interior of the State, came to me with a tight organic stricture of about twelve years standing; had suffered repeatedly from retention. He was emaciated and wasted—looked like a person advanced in phthisis. His urine was markedly albuminous. He had complete atony of the bladder, having to use a gum catheter No. 2 to draw his urine every three or four hours. Through the rectum I could feel the bladder contracted to the size of a small apple, hard and thickened. The stricture was in the commencement of the sub-pubic curve. What was best to be done, or whether anything could be done with a chance of success, to my mind was doubtful. He was a druggist, and a gentleman of more than ordinary intelligence, and had studied the treatment of strictures for himself; had attempted to cure himself by gradual dilatation, and failing in this, placed himself in my charge for treatment. As you may well know, any one in his condition, with his knowledge of the subject, would be, as he was, a monomaniac on the subject. I advised him to submit to continuous dilatation, but in his eagerness for a more rapid one, I consented to try internal urethrotomy. To quiet his nervousness I allowed him to do the cutting himself, which he did without any material pain. He did well for a couple of days, but the paralysis of the bladder necessitating the frequent introduction of the catheter, so irritated the cut surfaces that urethral fever supervened. Following this a large abscess formed in the gluteal region. I delayed opening this as long as long as I could, well knowing that in all probability pyæmic symptoms would set in and carry him off. In this I was not mista-

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ken. I evacuated its contents through a valvular opening, and kept its walls well strapped and bandaged together, yet profuse suppuration continued; and pyæmia with its profuse perspirations and febrile excitement exhausted him. During my student's career, I saw several of these abscesses follow urethral fever, and since I have been in practice, I have seen three cases, of which only one recovered, and in every instance there was albuminous urine, and evidently some granular degeneration of the kidneys. Therefore, as a rule in the absence of the conditions necessitating external urethrotomy, either continual or gradual dilatation are the methods indicated in such cases as the above.

Mr. B——, of Macon, Miss., was sent me by my friend, Dr. S. V. D. Hill, for operation. I found upon examination that he had some ten different openings in the perineum, all communicating with the urethra. The whole scrotum and perineum were involved in an inodular degeneration. The urethra was contracted from the junction of the scrotum and perineum, so as to scarcely admit a No. 2 bougie beyond that point; this size could be introduced as far as the bulb. When urine was voided, there was a large distension of several sacks that opened by their mouths—ten in number. I commenced, and split, upon a small probe, several of the small openings, until I found that they all pointed in one direction, seeming to terminate in the general sack. This sack I then laid open, and carefully studied the communication between this sack and the urethra, by using Arnote's probe day after day, until finally I struck the opening into the urethra, and passed the probe into the bladder. I then enlarged the opening into the urethra, so as to allow the introduction of either a female or gum catheter through the perineum. I then undertook external urethrotomy. I introduced a large sized staff as far as it would pass, then laid open the urethra by a division of the perineum; then secured each side of the urethral incision by threads passed through each border as recommended by Mr. Avery, and with a very delicate probe followed the urethra. The urine had not ceased to flow through the urethra entirely until I enlarged the perineal opening, and before commencing the cutting, I had introduced a female catheter. With my loops of thread commanding the urethra, and a delicate probe passed into the stricture, a few nicks of a tenotome led me back to the distal urethra, commanded by the female catheter. I then enlarged the opening sufficiently to admit an English No. 12 bougie. I followed the suggestion of Prof. Wm. H. Van Buren, of not retaining a catheter, but contented myself simply with maintaining the calibre of No. 12, until the parts externally had nearly healed, and then increased the dilatation with Beniqué's peculiar curve up to the fullest capacity of the urethra, and directed him to supply himself with an instrument and maintain the dilatation obtained.

Reuben Ellis, colored, stricture of forty years standing, perineal

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fistula with a number of openings. Treated upon the same plan as the case reported.

Mr. Fouche, aged twenty-seven years, applied for treatment about the first of August; was suffering from constant dribbling of his urine, not being able to void it any other way. Some time in 1868 he received an injury of the perineum; afterwards he had gonorrhœa, and for quite a long time had not been able to pass his water except by drops, necessitating the wearing of a *condom*. Upon examination the perineum was found to be inflamed, indurated and swollen considerably. Evidently there was either urinary infiltration, or an abscess forming. I tried to introduce an instrument, but finding it impossible, determined to do perineal section. This was done August 5th, with the assistance of Drs. France and Ross. The patient, after being brought thoroughly under the influence of chloroform, was placed upon the edge of a table facing a good light, in the position for lithotomy, an assistant supporting each knee. The stricture was entirely impervious to the passage of any instrument. A grooved staff (the one used by Syme,) was introduced as far as possible and pressed firmly against the stricture, so as to render its extremity prominent. An incision was then made extending from the back part of the scrotum to near the anus, exactly in the median line along the raphé. The urethra was opened on the point of the instrument in front of the stricture, The canal of the urethra was found to be obliterated to the extent of more than an inch. Search was then made for the posterior part of the urethra which was found considerably dilated and full of urine. It was opened and the urine allowed to escape. A grooved director was then let into the bladder, and upon this the opening was enlarged and the shaft passed into the bladder. The wound was plugged with lint, no instrument being used for the first twenty-four hours; quinine and opium were administered to prevent fever and allay pain. As was expected there was some urinary infiltration, and there is no doubt that an abscess would have formed if the operation had been postponed. The operation was a complete success, and the patient can now pass a full stream without the slightest difficulty.

Mr. Travis Fort, rupture of the urethra, caused by a fall. This happened while rafting timber on Big Creek. He slipped from a log, (as he was trying with a pole to push another from under some brush where it had lodged,) and fell into the water astraddle of its end, striking the perineum which produced a rupture just in front of the triangular ligament. There was some urinary infiltration, attended with a good deal of swelling of the perineum and scrotum. This was relieved by a free incision; the urethra was opened and a full sized instrument introduced occasionally to maintain the calibre of the canal.

I have also operated on several other cases, as follows:

With Maisonneuve's urethrotome, on P. L. Doyle, Mr. W——, John ——, Erasmus Clark, colored, and three others, all successful.

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With Holt's dilator, on Peter Punter, and a negro man at the City Hospital. Both successful.

By continuous dilatation, Mr. S——. Successful.

You will perceive by the foregoing report that I have had quite a run of urethral stricture to treat during the past year, and it may be of interest to you to know the treatment that I think best adapted to the management of such cases. In no instance have I performed external urethrotomy in which the anatomy of the perineum was not disarranged, either by inflammatory deposits, or perinsal fistulæ. I have occasionally been foiled in attempting to introduce an instrument, but by repeated efforts judiciously made, I have usually succeeded, and when the bladder was fairly at my command, I have had no difficulty in destroying the stricture. Whoever undertakes to treat strictures of the urethra should be in possession, in addition to the ordinary armamentarium of bougies and catheters, both gum and metallic, of Holt's and Vollemier's dilators and Maisonneuve's urethrotome as modified by Bumstead. When a patient presents himself to me for treatment, I revolve in my mind is it a case for gradual dilatation; or for continuous dilatation, as described by Sir Henry Thompson, and as practiced in Mr. L.'s case; for immediate dilatation; or for internal urethrotomy; or external urethrotomy? Cases of recent contractions, such as are usually productive of gleety discharges rapidly yield to gradual dilatation. These contractions are most readily recognized by the bougie a boule. But when we come to these organic changes of a more permanent character that produce the severer grades of urethral stricture, we have appliances that are more prompt, more efficacious, and I believe less hazardous than the process of gradual dilatation. I have never lost a case unless it was attributable to organic changes in the kidneys. In the preceding enumeration I have omitted many cases of recent or soft strictures, and have confined my detail of cases to those exhibiting more advanced stages. I do not believe that there is any material advantage of one procedure over the other as to internal urethrotomy and forcible dilatation in the treatment of strictures situated deeply in the urethra. But when the stricture is situated forward of the pubic curve, it has seemed to me that internal urethrotomy produced more rapid and satisfactory results. However, if in operating on a tight stricture, I had in the staff of Vollimier's instrument I would not withdraw it to replace it by Maisonneuve's staff for urethrotomy. I beleive that Bumstead's article on organic structure is complete, and covers the whole ground. Every surgeon who cuts a few strictures, it strikes me, has a mania for getting his name on the handle of some new instrument, which serves no other purpose than to lumber up unprofitably the surgeon's urethral case. I do not believe an improvement possible. When we have the instruments mentioned as modified by Bumstead, I cannot conceive of a case that we can not afford every opportunity for recovery that can be obtained by art. The filiform is a serviceable appendage, but in

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some cases I have been troubled by its bending up, and the staff not following it as he describes. In the last case operated on the filiform was a very fine one. The Maisonneuve staff followed it until engaged in the stricture, and then the cap hung stubbornly, and required so much force to pass it, that I withdrew it, preferring to introduce Holt's staff so as to increase the opening by its greater size before risking the full introduction of the urethrotome. Yet when they pass well they serve to direct you to the bladder, and keep you out of false passages. They certainly locate tight strictures, and in this way are a great safeguard against mischief. Now about continuous dilatation. In treating all cases requiring surgical interference a due regard should be had for shock and surgical fever. The immediate effects dreaded in operations are the results of urethral fever. In order to withstand this, more or less, constitutional vigor is essential, whilst in the majority of instances, in persons under the age of sixty, before the heart has taken on the process of fatty degeneration, in which the general health is not materially deteriorated, and the kidneys have not participated in the diseased action, safe reliance can be placed upon the recuperative powers to withstand any shock that might result from either internal urethrotomy or forcible dilatation. But when we have feeble vital powers, either from advanced life, or from organic disease of some important organ, continuous dilatation is well worthy of careful consideration. In the only cases reported of continuous dilatation the above consideration controlled my conduct. In my judgment, external urethrotomy should be reserved for those cases of impermeable stricture, complicated with disarrangements of the parts of the perineum, such as take place in fistula and abscess from mechanical violence. But what are we to do when there is retention of urine, and it is impossible to enter the bladder, and the stricture is situated far back? I would tap the bladder, and in as short a time as practicable get through the urethra by one of the several means mentioned. The method of doing external urethrotomy is the one advocated by Dr. Gouley, of New York. In Bibb's case, as seen by the report, I worked through one of the fistulæ with Arnott's probe, until I reached the bladder, then enlarged the fistula with a blunt pointed bistoury knife, and introduced a female sound through this opening, then passed a staff as far as the urethra would allow, and worked through the stricture as is usual in this operation, the female catheter giving me control of the bladder, and enabling me to locate the urethra. After any form of treatment the patient must be instructed to use for himself the very largest size instrument that the urethra can be made to chamber. Sometimes the meatus must be enlarged when preternaturally small. This can be done either with Civiale's button-pointed concealed bistoury or an ordinary curved bistoury.

Eleven Cases of Circumcision for Phymosis.—I will relate one case, giving the manner in which this operation is done.

Negro man, City Hospital, age 27 years—Phymosis partly con-

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genital, but rendered troublesome at this time from swelling of the glans penis, caused by several chancroids situated on its upper surface. This condition of the genital organ in the negro race is so frequently met with, it might well be termed the natural one. Circumcision was performed for his relief. The manner in which I perform this operation is as follows: The instruments used are two tenacula and a pair of scissors. A tenaculum is passed under and through the prepuce, including the mucous membrane, a little to one side and above the meatus. The other is passed through in a like manner at some little distance from the one first introduced. These are then held apart, and with scissors the foreskin is slit up to near its insertion, without the least danger whatever of injury to the glans penis. The scissors are then turned straight up and down, and the prepuce is detached all the way around without stopping. The integument and mucous membrane are then stitched together, four or five sutures being sufficient. It requires but a few moments to perform the operation.

Three Cases of Amputation of the Penis—One with Chassaignac's Ecraseur, and two with Dr. Nott's.

B. Hall, age 67 years, City Hospital.—Epithelial cancer of glans penis.—A circular incision was first made through the integument, which was retracted for about an inch, so as to give a sufficient covering for the stump. The chain of the ecraseur was then passed around the organ and the diseased part removed. Considerable hemorrhage followed, which was only checked by embracing each corpora cavernosa in a strong ligature.

Amputation of the Penis with Dr. Nott's Recto Linear Ecraseur.—Mr. Demerest, City Hospital, age 103 years.—The patient was brought slightly under the influence of sulphuric ether, and the ecraseur applied to the penis within an inch of its attachment to the pubes. The diseased mass, which was epithelial, and that part of the penis external to the instrument, was removed with a knife. The ecraseur was allowed to remain for a short while, so as to thoroughly crush all of the vessels. Upon its removal there was not a particle of hemorrhage. No ligature was applied.

Moses Phiefer, colored, Epithelial Cancer of Penis.—Operation same as above.

Thirteen Cases of Hemerrhoids.—External tumors were removed with scissors. Internal tumors, after dividing the external and forcibly dilating the internal sphincter ani muscles, were ligated. Dr. Nott's Ecraseur was used to crush the piles before applying the ligature in four cases.

Five Cases of Fistula in Ano.—Of these cases two, one in which the scalpel was used and one treated with the ecraseur, will serve as examples for all.

Mr. McLean, at Providence Infirmary.—The fistula had one opening into the bowels and three communicating externally through the integument. A grooved director was passed up through the

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canal and turned back so that its extremity appeared at the anus. A scalpel was then passed through, dividing the structures included between the probe and the intestine. There was considerable hemorrhage, rendering it necessary to plug the wound with pieces of lint saturated in per sulphate of iron.

Mr. Graham, age 45 years, fell from the deck of a ship down into the hold, the injury producing an abscess in the ischio-rectal fossa—which resulted in a fistula in ano. As the fistula extended very high up, it was thought best to divide it with an ecraseur, which was done, the chain being passed up through the fistula and out of the bowel by means of an eyed probe. For some time there was but very little effort towards healing; this, however, was accomplished by touching the parts with nitric acid.

OVARIAN TUMORS.

The first case that I operated on was a negro woman, aged thirty-nine years, a patient of my friend Dr. Sherrard. She had suffered for some eight months so severely that she was bed-ridden. She had been first treated by some of our physicians, and then fell into the hands of one of her own color, who tried upon her the effects of all forms of voodooism. Finding the conjuring art of no avail, she called in Dr. S. She had reached near the age of forty. The tumor, about the size of a large cantelope, floated loose in the abdomen, seemingly by a long pedicle. The history of the case, the first enlargement being recognized on the left side, caused me to suspect fibroid degeneration of that ovary. The menstrual flow was constant and exhausting. It had persistently resisted the effects of all the resources of the materia medica, and Dr. S. called me in to consider the propriety of removing what he considered the prime origin of the irritation that kept up the hæmorrhage. After seeing her, making a careful examination, and finding an entire absence of fibroids, either in or attached to the uterus, I consented to remove this floating tumor. The abdomen was opened by the usual incision, and the tumor was removed through the smallest possible section of the abdominal cavity. The woman made a speedy recovery, her uterine irritation and flow ceased, and her health is completely restored. It occurs to me that this trouble originated from syphilis, for the removed body presented precisely the appearance of that fibroid degeneration that I have seen in syphilitic testicle after the plastic exudation accompanying the inflammation has become organized, and appreciating the loose morals of the colored race, and the history of the growth extending back for years, following symptoms that strongly indicated syphilis. Now comes the question, was this operation justifiable? All authorities tell us that after the menopause, as a general rule, these solid tumors cease to grow, whether uterine or ovarian, if non-malignant. And when we reflect that all growths of the ovaries or the uterus

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that are not cancerous destroy life, either by mechanical interference with important organs, or by their irritative effect exerted chiefly upon the uterus, the query comes up whether it is right to endanger life by a dangerous operation? Had not this tumor been movable, and had not the woman's death been almost certain without interference, I certainly would not have done the operation. The operation fully sustained the diagnosis. The tumor was a fibroid degeneration of the left ovary, attached by a small pedicle, and the recovery of the patient justifies the means. Then again I believe that the disease is syphilitic, not only from the symptoms mentioned, but from the fact that the structural changes in the ovary resembled syphilitic enlargement of the testicle, and from the fact that no other fibroids were found either in the uterus or ovaries.

Case II.—During August last I was requested by my friend, Dr. John Chester, of Jackson, Tennessee, to visit and operate upon a patient of his, Miss L———, a young lady of twenty-seven years of age, for an ovarian tumor. The history, as given me, was that it had commenced growing some twelve months previous to her consulting him. Upon the first examination he recognized its real nature, and supposed that it involved the left ovary from its history. To verify his diagnosis he tapped it, and drew off more than two gallons of albuminous fluid. He found that it was unilocular, and a favorable case for operation. He strongly urged upon her and the family the operation, as her best chance for recovery. Upon examination, I found that the sack had nearly refilled to its original size. This examination was made in about three weeks after the tapping. I concurred with him fully in the diagnosis and determined to operate. In the presence and with the assistance of Drs. Collins, Dashiel and Fenner, we opened the abdomen by an incision about four inches in length, extending from an inch below the umbilicus to the preperitoneal space, tapped the cyst, and pulled it out through the incision. We found the left ovary implicated, as diagnosticated by Dr. Chester, with a small pedicle and no adhesions. The pedicle was secured, as advocated by Sims and Emmett, with silver wire. We kept the abdomen open for some time, and soon found that the wire slipped, as it will nearly always do. I then removed it, and tied each vessel separately with small silk. The incision was then closed by silver wire, passed through the thickness of the abdominal wall, including the peritoneum. The patient recovered well from the chloroform, and did remarkably well, there being scarcely any febrile excitement until the twelfth day after the operation. The sutures in the abdomen were removed on the sixth day, and union had taken place throughout. On the twelfth day she had considerable fever. Examining the abdomen closely, I found at the lower part of the incision some hardness. Upon pressing it a considerable quantity of pus poured out through one of the points of introduction of the lowest suture. Under appropriate treatment, with poultices to the

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part, the fever subsided. There was a slight discharge from the opening for three weeks. There was some hardness remaining. This, however, disappeared gradually, and she is now entirely cured. It does seem to me that specialists have greatly magnified the difficulties of this operation. I strenuously advocate that a surgeon has no right to endanger the life of an individual by experimental operations. But ovariotomy is now one of the legitimate resources of surgery, and certainly has no higher claims to special fitness on the part of the operator than many other operations that are practiced by the general practitioner of surgery. When a surgeon undertakes an operation he should appreciate the dangers. Every surgical operation should be done with full knowledge, both as to the anatomy and as to the causes that are likely to produce unsuccessful results. In ovariotomy, after the anatomical relations of the tumor, then comes in for consideration the causes that are likely to produce death. The first danger is shock; second, hemorrhage; third, peritonitis; and lastly, septic influences. The first requires innate vital power, and careful and expeditious manipulation in the operator. The second requires the proper management of the pedicle and adhesions. The third point is best obviated by the judicious administration of opium; for opium is as much a protection against peritonitis as quinine is a safeguard against malarial fevers. Septic influences are best prevented by carefully cleansing the abdominal cavity of all fluids, both blood and the contents of the sack, should any have escaped into the cavity. We must remember the absorbing powers of the peritoneal surfaces, and the poisonous effects of retained putrid fluids. As yet I have said nothing about the pedicle, and as I am not expected to go fully into the subject, I must state briefly that the best practice I conceive to be to control the hemorrhage with the least possible disturbance to the pelvic organs, either by tension causing displacement, or by strangulation of parts, that must become gangrenous. When the pedicle is small and long I am an advocate for ligation of each vessel separately, as is practiced in castration. From considerable experience with Nott's rectilinear ecraseur in various operations, I am inclined to think favorably of his instrument for crushing the pedicle when it is not practicable to tie each vessel separately. I have within the past two months used it in removing two testicles, one syphilitic and the other scrofulous. In both instances I crushed the cord and divided it on the distal extremity, leaving the crushed tissues; and in order to safely guard against hemorrhage, I passed a loop of silk below the crushed point, so as to command any bleeding that might take place. In neither was there any bleeding. In one case I removed the tongue as far back as the palatine arch. This was done in the presence of Dr. Vasser of Cahaba, and there was no hemorrhage. I watched with interest the changes that took place in the crushed tissues, and the distal tissues remaining. In no instance was there any sloughing. I do not, therefore, believe that

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in a healthy pedicle, left simply crushed by this ecraseur, there would be any great danger from hemorrhage or from septic influences of a slough. But when the parts are softened and rendered brittle by inflammatory action it would be unwise to trust it. Now, to repeat my opinion of the different methods of securing the pedicle, I will tell you that I prefer separate ligature of each vessel when it is practicable. When it is not, I would use Dr. Nott's ecraseur to crush the pedicle, and encircle the crushed part with carbolized cat-gut, or some metallic wire that would hold with sufficient firmness to prevent hemorrhage, yet at the same time not destroy the nutritive resources of the distal stump. I have not had occasion to resort to the measure, but I believe that in the operation of removing large solid tumors, involving the ovaries or uterus, ligation of the internal iliacs, after the opening of the abdomen, would be the best means of preventing hemorrhage.

OTHER TUMORS.

Mr. Goodall—Removal of cystic tumor from below the angle of the inferior maxillary bone. The cyst contained a white jelly-like substance resembling colloid matter. It was situated directly over the external carotid, the sheath of which could be plainly seen after the direction was completed.

Miss Metzgher—Removal of cystic tumor situated between the æsophagus and trachea, size of a goose egg—described by authors as hydrocele of neck. The tumor was enucleated by cutting down upon it without opening the sack, and with the finger separating it from surrounding parts.

Clara Evans, aged twelve years, at "The Providence Infirmary," from Mississippi. This little girl was sent down for treatment by Mr. Warren, from his mill at Buckatunna Station, on the Mobile and Ohio Railroad. She had a large tumor in her mouth, which not only filled the entire cavity, but protruded to a considerable extent, causing her mouth to be partially open all the time. The tumor, after a thorough examination, was pronounced an epulis of the myeloid variety. It was attached to the inferior maxillary bone on the left side external to the bicuspids, the periosteum at this point being involved; the mass was also adherent to the buccinator muscle. An incision was first made, extending from the mental process to a point just above the angle of the ramus on the left side. After ligating the facial artery and one or two other small vessels, the cavity of the mouth was opened into, not being able to turn the tumor out, owing to its large size. The incision was extended from the mental process, up the symphisis, and the lower lip cut through. When this was pulled back it gave plenty of room. The mass was easily turned out and separated from its attachment to the buccinator muscle and the inferior maxillary bone. The canine and one of the bicuspids were extracted, and after separating the periosteum

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from the bone a curved needle, armed with the chain of a chain saw, was passed around the bone, which was sawn through at this point, leaving the incisors. The chain was also passed around about two inches above, near the angle, and another section made. A portion of the incision, including that through the lip, was brought together with hare-lip pins—the remainder with common silk ligature. Most of the wound healed by first intention. The patient made a good recovery.

OPERATIONS FOR CANCER.

Nine Cases of Epithelial, three Scirrhus of Breast.

Mr. E. Carlen, at Providence Infirmary, July 19th, 1871, ligature of the left common carotid and removal of the parotid gland for epithelioma.—Mr. Carlen first applied for treatment about three years ago. At that time he had a small ulcer, the size of a nickle, situated a little to the left side of the middle of the lower lip. This had been troubling him for some time, and was treated by the application of caustics. A V shaped incision was removed from the lip, embracing all the diseased structure. A few months after this the submaxillary gland became affected with the disease; was considerably enlarged and very painful, so much so that it prevented sleep. It was determined to remove the gland, together with all diseased tissues surrounding it. With the assistance of Dr. Ketchum the operation was performed, the facial and lingual arteries requiring ligation. Every particle of the diseased structure that could be seen was cut away; but, notwithstanding this, the disease returned in the parotid gland. Mr. Carlen went to New Orleans and New York, and consulted the most eminent surgeons in those cities. They all agreed as to the cancerous nature of his malady. He came back to Mobile with no hope whatever of living any length of time. The tumor had grown to quite a large size. It pressed so firmly against the bone and was so adherent to the muscles that he was unable to open his mouth, and could take no nourishment, except in the liquid form. He insisted that something should be done for him that would give him a chance for his life, even if it was at a great risk, as he would certainly die in a few weeks if he did not get relief, since he could neither eat nor sleep. It was proposed to ligate the carotid, so as to cut off the supply of blood and starve the tumor; also to make an incision down upon it, and remove as much as possible of the diseased mass. He decided to have it done. The day appointed was July 19th, 1871. The left common carotid artery was cut down upon and ligated just above the omohyoid muscle. An incision was then made down upon the tumor, and the whole of the mass, including the parotid gland, removed. The wound was left open and dressed with per sulphate of iron, and a few days after this it was changed for a solution of carbolic acid. Two weeks after the

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operation, the patient was doing well, the wound was granulating, he could open his mouth as wide as he wished, slept well, and was free from pain.

The disease returned, and the patient died eight months after last operation. He tried Condurango for several weeks; but this remedy did not seem to exert the slightest influence.

REMOVAL OF MAMMARY GLANDS.

First case—Mrs. G., of Demopolis.
Second case—Mr. C., of Mobile.
Third case—Mrs. P., of Whistler.
All schirrhous.

OPERATIONS FOR RUPTURE OF PERINEUM.

Six cases, operated as described in last report.

The following is a typical case of partial rupture, of which I have seen quite a number:

Some eighteen months ago I was called to see Mrs. N., and found that she was suffering greatly from uterine disease. The uterus was anteverted and largely increased in size. The bladder was swagging so low that it hung almost out of her person; she was unable to walk any distance on account of the pains that exercise produced in the back and the vesical irritation that was produced. Upon inquiry, I ascertained that she had given birth to but two children—the youngest stillborn after a protracted labor, and from that time she had suffered from uterine disease. At this time she was suffering from almost constant hemorrhage. As stated, the uterus was anteverted, and the os was almost obliterated from previous caustic applications. There was a partial rupture of the perineum through the sphincter vaginæ muscle. I first restored the os by incision and dilatation with flexible bougies of soft metal, and then repaired the perineum. The result is, that her health is perfectly restored. She is a widow lady, now nearly forty years of age; yet, after the restoration of the perineum, her uterine functions have become healthy. If we think for a moment, we can readily see how the loss of the power in the sphincter vaginæ may invite displacement of the pelvic organs. I have now a patient, a little boy ten years old, whose sphincter ani was torn away by the attending physician at the time of his birth with a blunt hook. The result is a horrible prolapse of the bowel. I have cured quite a number of these cases, not only anteversion but also retroversion, by repairing the loss of this muscle. The operation is precisely the same as that done for ruptured perineum.

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CASES OF UTERINE SURGERY.

Cases of dysmenorrhœa; six amputations of cervix; bilateral division of cervix; removal of polypi, with one case fibrous tumor constitutes the character of cases treated:

Mrs. S., age 23 years, patient of Dr. Webb. Since the age of 15 she had suffered from dysmenorrhœa; had been married for about eight months. She was treated both before and after her marriage according to the most approved methods, but without any amelioration. Dr. Webb recognized her's as a case requiring an operation, the smallness of the os not allowing the introduction of Emmet's probe. By palpation the body of the organ could be distinctly made out. The cervix was exceedingly small. After placing her in Sim's position and pulling down the uterus with Tieman's ball forceps, I divided the posterior lip with scissors, and then enlarged the internal os with Sim's angular knife. The body of the uterus was retroverted with somewhat of a lateral flexion. The stricture was sufficiently divided to allow the introduction of a No. 8 bougie of soft metal. The dilatation was kept up by introducing these sounds every few days. A few months afterwards she became pregnant and gave birth to a child at full term.

Mrs. Boyd, age 35 years, applied for treatment on account of menorrhagia. I found, upon making an examination, that the cavity of the uterus was about four inches in depth, with a small vascular polypus hanging out from the os and attached within the cervix. Sim's method of bilateral division of the cervix was performed, the polypus removed and per sulphate of iron applied by saturating a tampon of cotton. The iron was used, not only to check the hemorrhage but to prevent the return of the polypus.

Martha Nichols, colored, age 29 years.—She had never borne any children, although she had been married for ten years and had menstruated regularly. On examination, that peculiar condition of the uterus described by Huguier as hypertrophic elongation of the cervix, to which he exclusively ascribes complete prolapse, was found. In the standing posture the cervix hung out of the vulva more than an inch. The patient, under chloroform, was placed on her left side, Simm's favorite position for uterine operations, and Dr. Nott's Recti Linear Ecraseur was applied, grasping the cervix evenly close to the vaginal insertion. The clamp was rapidly screwed down and allowed to remain for some five minutes. Before removing the clamp, with a pair of scissors, I cut off the strangulated cervix as close to the clamp as possible. On removing the instrument, there was not a drop of hemorrhage and the crushed tissues were not cut at any point. The woman remained in her bed for five days and then in her room for ten days longer.

The approximated mucous membrane covering the stump did not subsequently separate, but healed by immediate union. At

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every point the covering was more uniformly and evenly applied than it was possible to have done it by sutures.

OPERATIONS FOR DISEASED BONES.

Rev. Father ——, Spring Hill College, caries of the trochanter major. Removed the trochanter.

Negro man, Marine Hospital, necrosis and caries of the femur. Opened into the cavity of the involucrum with a small trephine, so as to allow the pus and plactea sequestra a free outlet.

Mr. Gladney, of Mississippi, caries of the tibia, resulting from a gunshot wound received in one of the battles of Virginia. There was a fistulous opening that communicated with two osteophyte that sprung from the surface of the bone just at the spot that was grazed by the ball. This canal was laid open and the outgrowths of bone knocked off with a chisel and mallet. During this manipulation, the posterior tibial artery gave way under the pressure. Although quite a serious accident, it was ligated by making use of an anurism needle.

FOUR CASES OF HARE LIP.

Son of Mr. Malone, single hare lip. Operated by Malgaine's method.

Dr. Wood's child, double hare lip.

Infant of J. W. A. Scott, single.

Son of Mr. Winston.

SUCCESSFUL CASE OF TREPHINING.

Thomas S——, Columbus. This young man was placed in my hands for operation by my friend, Prof G. A. Ketchum. During the battles around Petersburg he received a stun from the explosion of a shell, a fragment striking him on the right parietal bone, just external to the parietal suture, and in front of the crown of the head. At this point there was no marked depression, yet a scar in the scalp enabled me to find the locality injured. At the time of the receipt of the injury he did not suffer greatly, some shock and headache following were the only symptoms complained of. In about two years, however, epileptic convulsions set in, and after a few months they recurred with so much severity, that his father brought him to this city for treatment. At the time I saw him he had averaged a convulsion daily. He had gone through the catalogue of remedies without any benefit, and as a last resort we determined to trust to the operation of trephining. We cut down upon the point of depression and laid it bare, and using Gault's trephine bored through a thickness of skull measuring nearly one inch. Introducing the finger, I could feel that I had gone through

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an external exostosis. With roncheurs we removed all that part that was abnormally thickened. Examining the button removed, I found the two tables separated by a proliferation of diploic structure. My solution of the condition is that the blow caused a detachment of the internal table, and the gap gradually filled up with the tissue mentioned. The morning following the operation we found him just in the commencing stage of meningeal inflammation. He had a dull, heavy look, and complained greatly of his head, fever had set in, the pulse was full and frequent. We had taken the precaution to bring him to the verge of ptyalism before the operation. We at once concurred in the opinion that in veratrum viride was the greatest safeguard, and we gave it with no sparing hand. We at once gave a purgative dose of calomel combined with nitrate of potassa; and gave eight drops of Norwood's tincture every two hours until the unpleasant symptoms were controlled. I am thoroughly satisfied that this young man owes his recovery to the veratrum. His recovery was uninterrupted afterwards, and to this day he remains in perfect health.

Excision of the Anterior Crural Nerve, for Pain in the Knee—Gun shot Injury.—Patient, Jno. A. Williams. At the Providence Infirmary. Born in Massachusetts, residence in Pensacola; aged twenty-eight years. He was shot on the 17th of April last with a pistol, the ball entering the thigh an inch below Poupart's ligament, and injuring the anterior curval nerve above its division into the anterior and posterior culaneous and the long saphenous. He says that at the time of the injury there was considerable hæmorrhage, but that no ligature was applied. There was a great deal of numbness of the limb, which lasted about twenty-four hours. He was seen and treated by Dr. Hodges of Pensacola. He applied for treatment here some time about the first of August; had been suffering ever since the injury with severe pain in the knee, and had but little use of his leg. The pain in the knee was evidently caused by the injury done to the nerve. As everything had failed in the way of treatment, I determined that the best thing that could be done would be to cut down upon the nerve and exact a portion of it. This was accomplished at the injured joint and a neuroma found as large as a pea, which, with about an inch of the nerve, was removed. The operation gave him great relief, and will, I think, prove a permanent cure.

Varicose Ulcer of the Leg, Cured by Application of Vienna Paste. Reported as a typical case. Patient, Mr. Malone, an Irishman, aged forty-three years; had been troubled for more than five years with a large ulcer, situated just to the outer side of the crest of the tibia about four inches above the ankle. All kinds of treatment had been employed. The ulcer if healed would break out again from the slightest causes. The superficial veins of the leg were considerably enlarged, especially the long and short saphenous. It was necessary to destroy the varicosity of the veins, and the application

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of Vienna paste was thought preferable to any of the other means for accomplishing this purpose. Small pieces of adhesive plaster, cut diamond shaped, with holes in the centre, were applied over the enlarged veins at several places, so as to limit the action of the caustic. The *potassa cum calce* was made into a paste of the consistence of cream by the addition of alcohol, applied to the part, and allowed to remain for five minutes. This entirely obliterated the veins. The ulcer now yielded rapidly to treatment, and was soon completely cured by the application of bandages and straps.

REPORT OF TWO CASES OF EMPYÆMA.

James Brown, colored, thirty-nine years of age, at City Hospital, stabbed with a knife December 1st, 1870, producing empyæma of the left thoracic cavity. A pyogenic membrane also formed under the pectoralis major muscle, which kept up a constant discharge of pus. This was freely laid open and stuffed with cotton so as to excite enough inflammation to destroy it. A portion of a carious rib was removed and a free opening made into the cavity of the chest so as to allow a free outlet to the pus. I advised the washing out of the cavity by means of a double catheter with tepid water carbolized.

Mr. Coleman, aged twenty-seven, at City Hospital; empyæma of the left thoracic cavity, caused by gun-shot wound received in the battle of Cedar Creek, Virginia. He was lying down at the time, Thé ball entered the arm, passed through the left thoracic cavity. and was removed from the lower portion of the back. A free opening was made into the cavity posteriorly just below the angle of the scapula; a large amount of pus was immediately evacuated, showing the correctness of the diagnosis. Dr. Moore, of Claiborne, sent me for treatment Mr. McK——. His history was that some time previously he had passed a large calculus, which had lodged at the junction of the penis and scrotum in front. There it had been allowed to remain until it ulcerated through the urethra and dropped out. From his suffering and irritation of the urinary organs he was very much reduced. The result was an extensive slough involving the urethra from the scrotum nearly to the glans. Through the opening the urine passed externally. In thinking over his case it occurred to me to act upon the suggestion of Sir Henry Thompson, turn the urine through the perineum, and by a flap from the scrotum pulled forward to close up the urethral opening. Having made up my mind to do this, I introduced into the urethra the canula of a large curved trocar, as far as the curve, then turning its point in the direction of the perineum, thrust in the trocar, and brought its point out through the perineum. I then enlarged with a delicate knife the opening thus made into the urethra. This converted the urethra into a female urethra for all practical purposes. I then, through the perineum passed Sims' catheter, which I retained, and did the plastic operation as before indicated. The result is a perfect cure.

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LITHOTOMY.

I have seen but two cases of stone in the bladder, and only one of these has been operated upon. This case is Mr. James L., brought me by my esteemed friend, Dr. McDaniel, of Camden, Wilcox county. The old gentleman was in his sixty-ninth year. Although a man of good habits and wonderful physical development, he had suffered so much and so long that he was wasted to a perfect skeleton. He had suffered from symptoms of stone from boyhood—indeed, to use his own expression, with one hand holding his penis, the other had earned his sustenance. During the last year he had suffered from an uncontrollable diarrhœa. Dr. McD. had exhausted his skill attempting to control his bowels and get him in a condition for treatment for his urinary difficulties, but had failed. When he came to me, the Dr. and myself sounded his bladder, and readily detected a calculus about the size of a small plum. We examined his urine, and found some albumen and a large quantity of pus and mucus. It was alkaline in reaction. Now, the question was, What is best to be done? The vesical irritation and tenesmus seemed to aggravate his diarrhœa, and thus far efforts to control the bowels were unavailing. After weighing the points of the case, we came to the conclusion that lithotomy should be done—thus placing the bladder at rest, with the hope that the bowel trouble would then respond to treatment. We discussed the prospects of lithotomy and lithotrity, recognizing the general fact that lithotrity is best suited to patients in adult life. But in the case before us other points came up for consideration—the vesical tenesmus and the muco purulent secretion from the bladder, all of which would embarrass either operation. But, everything considered, we regarded lithotomy as the operation offering the best chance of success. Without adequate experience, I stated to the medical class of the College in whose presence the operation was performed: To say that lithotomy was not, in my opinion, the dangerous operation that the majority of surgeons seemed to think, would smack of egotism. But if you will reflect a moment how easy and usually harmless it is to remove a stone from the female bladder, and that, to any one who is master of the anatomy of the perineum, a few simple incisions converts the male urethra into the female, save the existence of the prostrate gland in the male (and even this is no great obstacle to proper dilatation, when a little patience is exercised), it will be evident that lithotomy, practiced without the deep incision through the vesical neck, is robbed of more than half of its dangers. The finger, carefully and gently introduced, sufficiently dilates the neck of the bladder in adults to allow of the removal of a stone without incising it. In children the prostate is brittle and easily tears, so that the stone can be extracted without enlarging the neck of the bladder by cutting. But suppose the stone is large, by converting the male into a female urethra, the

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crushing instrument can be used and the large stone converted into fragments, and the bladder as readily relieved of stone as though the patient was a female, unless the stone is very large and is largely composed of oxylate of lime. When this is the case, such experts as Sir Henry Thompson might possibly give a patient a better chance by crushing than by cutting, but even this I doubt. I am familiar with the fact that this has been often discussed in times gone by. But then the appliances for crushing were not so complete as now. The point I insist upon is, not to incise the neck of the bladder, but, by a little patience, the index finger can be introduced into the bladder, and an ordinary stone can be seized and extracted without cutting. The muco purulent discharge, which was constantly roping up in the urethra and obstructing it, was another reason why lithotomy was done after the method described. The finger was introduced and the stone extracted, without difficulty. The patient expressed himself as greatly relieved in a few hours, so far as his bladder symptoms were concerned. He had regained perfect control of the sphincter vesicæ in twenty-four hours. From this time his bladder gave him but little concern. In the course of a week he passed the greater part of his urine by the urethra. His diarrhœa, however, remained rebellious up to the time of his death, four weeks after the operation. He died from the exhaustion of his chronic diarrhœa.

SUCCESSFUL REMOVAL OF A KIDNEY.

Subjoined, you will find a succinct description of a case, in which I removed a kidney successfully in December, 1870. This case has not been published before, except an allusion is made to it in the New York Obstetrical Journal, of May, 1871. Extirpation of this organ has been done in several instances since the successful case of Simon; but in every instance has proved fatal except in mine, which is the second upon record in succession of date. It may be truthfully said that the organ was not discharging the function of the kidney, and could therefore be removed with comparatively little danger. Yet I report the case in our transactions simply for what it is worth. The displacement is unique and without a parallel. The specimen is now in the possession of Prof. T. G. Thomas, of New York, my friend and cherished preceptor. The woman, after the operation, went her full time, and was attended by Dr. D. E. Smith, of our city. He found that at the time of her confinement she had some anasarcous swelling of the feet and face with albuminuria. Yet there was nothing unnatural in her labor. She gave birth to a well-developed female child. In regard to the examination of the specimen, Dr. J. C. Nott, of New York, wrote to the editor of the Obstetrical Journal as follows, enclosing my description:

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"*Editor American Journal Obstetrics, etc:*

"In the December number of the *New York Medical Journal* were published some interesting facts in relation to "nephrotomy as a means of treating renal calculus," and also a *resume* of a case of successful extirpation of a kidney by Mr. Simon, of Heidelberg, from a female patient, for an incurable urinary fistula, originating in a wound of the ureter made during an ovariotomy.

"We have many instances on record where spontaneous discharge of renal calculi have taken place into the intestinal canal, or through the cavity of the abdomen. Most of these have proved fatal, while others have resulted in chronic urinary fistulæ. We also have numerous examples of atrophy of a kidney and its complete destruction by pressure, ulceration, malignant disease, etc.; but the records of surgery show very few attempts at renal lithotomy, and the case of Mr. Simon, alluded to above, so far as I know, is the first in which the kidney has been successfully removed from a living subject.

"It gives me great pleasure to put on record another well authenticated case, which will be found detailed below, in a letter from my friend Dr. John T. Gilmore, of Mobile. In order that the facts of the case might be more fully made out before publication, I read the letter before the New York Obstetrical Society, and also presented the specimen. The specimen was examined by the members, and at my request was microscopically examined afterwards by Dr. James B. Reynolds, M. D., and reported on at the last meeting of the Society. Although the organ was considerably atrophied and altered in structure by pressure, there was no difficulty in establishing the fact that it was a kidney.

"Yours, etc., J. C. NOTT."

"MOBILE, ALA., January 23, 1871.

"J. C. NOTT, M. D.:

"*Dear Doctor*—I will send you by express a small package containing what I am satisfied is a kidney. I removed it about the middle of December from the left lumbar region of a woman aged thirty-three years. Following her first pregnancy, four years ago, an indistinct tumor appeared in the upper part of this region, which gave constant pain.

"Within the past four or five months the pain had become so severe that she sought relief at all hazards. I had just read a history of successful extirpation of a kidney by Simon, in the *New York Medical Journal* of December. I determined to remove whatever I found the offending substance to be, even if I found it was the kidney.

"I made an incision down the outer border of the erector spinæ muscles and found it contained in a hernial sac made by pushing out the quadratus lumborum, lying on the transverse processes of the two first lumber vertebræ, its upper extremity pressed up external to the last rib. That it is an atrophied kidney is, I think, beyond dispute, which was floating previous to her pregnancy, and was forced into this abnormal position by the rising of the gravid uterus, hemming it in below the last rib and crowding it out, carrying before it the quadratus lumborum, which made its hernial sac. You can see impressions made upon the

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tumor by the transverse processes upon which it rested, also the remains of the ureter.

"The kidney, caught in this position and constantly compressed by the erector spinæ and quadratus muscles, became atrophied, lost its glandular character, and degenerated into a fibrous mass. Only a small vessel fed it, which was ligated after removal. The pain in the back was constant, and the region over the tumor was intolerant of manipulation.

"The woman, a negress, was poorly developed, with relaxed muscular fibre. At the time of the operation she was five months advanced in pregnancy. She has recovered, however, entirely, without abortion.

"Please present the specimen to the Obstetrical Society of New York, and let me know what conclusion is arrived at with regard to its character. Yours truly,

J. T. GILMORE."

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APPENDIX.

LITHOTOMY DONE BY A WOMAN WITH A CASE KNIFE.

I add here, as a matter of sufficient surgical curiosity to deserve a permanent record, the following letter received by me while this report is passing through the press. It explains itself:

"DEKALB, MISS., October 16, 1872.

"DR. J. T. GILMORE:

"*Dear Doctor*—My friend Dr. Campbell, of this county, says that on his recent visit to Mobile, you expressed a desire that I should send you the particulars of an operation for stone in the bladder that occurred in this neighborhood years ago. The facts and circumstances are these:—An old man, named Buck Craig, aged about sixty years, lived in this county, in the year 1840. He had some trouble with his urinary organs, slight stricture of the urethra, perhaps—and being a sort of steam doctor, and having read some, he dipped a straw in wax, making a rude catheter, which he introduced into the bladder, and on withdrawing it left part of the wax in the bladder, which became the nucleus for a calculus. In the course of a few months it became so large as to give him great pain, and he determined to operate for it. Under his direction, his wife, with a common case knife, ground into the form of a scalpel, cut into the urethra in the perineum, and successfully extracted the stone, which must have weighed at least two ounces. I saw the stone myself lying on the head of a flour barrel. It seems there were no persons present except his own family. They all said at the time that their mother did it, and Craig also averred that she did it. No surgeon ever claimed the credit of it, and it was done. My father-in-law, Mr. Hughes, lived within a mile of him, and saw him every day until he recovered and moved off.

"Mr. Murdoc McRae, W. C. Rush, and several other old citizens, now living in this neighborhood, told me last Sunday, after receiving your message by Dr. Campbell, that they saw him frequently after the operation. I was a lad of fifteen years in those days, but I distinctly recollect seeing the stone and hearing the matter discussed by his neighbors, and it was generally conceded by everybody that his wife did it. They were very poor people, and could not have paid a surgeon to come from a distance to do it. There were three physicians living here then, one of whom (Dr. McLanahan) is still here, and none of them ever claimed the credit of it. Nor did any one else, except his wife. These are the facts, and there is no doubt in my mind but that his wife performed the operation with nothing but a case knife. I am, Doctor,

"Respectfully, &c., &c. E. Fox."

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REPORT ON THE SURGERY OF MONTGOMERY COUNTY.

By JOHN H. BLUE, M. D., of Montgomery.

In reviewing the reports kindly furnished me by members of the Montgomery Medical and Surgical Society, I find that their surgery has not been so large in amount, or varied in character, as in years past; nor does it abound so much in descriptive interest. But were volume and quantity the desiderata of this report, material sufficient could have been furnished to carry it to tiresome elaboration; for the amount of surgical practice has been large, but the discrepancy in the major and minor characters is greater than would ordinarily exist, the unusual preponderance being in the latter department. Hence, while desirous of reporting the full amount, it has been my endeavor to abridge and condense as far as could consistently be done. Mention has been made to me of numerous dislocations and fractures, which the reporters have not deemed of sufficient interest to detail, and which have consequently not been incorporated. It will be observed that all the cases reported are furnished by members of the Montgomery Medical and Surgical Society. The following cases are reported by several physicians whose names are not given:

Case I.—In March last a negro man, aged about thirty, applied at my office to have a ball extracted from his shoulder. He stated that about one month previous to that time he had received a gunshot wound of the shoulder; the ball, as he supposed it to be, entering its anterior aspect. Several abscesses had formed around the wound, the cicatrices of which were present. Detached portions of the head of the humerus were found in the wound and removed, constituting altogether about three-fourths of the head of the bone. After the removal of the remaining spæculi to be found, water dressing was applied, and disinfectants, and the patient, after a tedious convalescence, recovered in a great measure the original motion and use of the arm. Thus nature accomplished alone a very

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beautiful and satisfactory result: that which the conservative surgeon often fails to do, even with her aid.

Case II.—R. S——, aged forty-five, fracture in left lateral portion of frontal bone from a blow upon the head with a large stick. Slight depression existed and hæmorrhage from the nose and ears occurred, (the latter small in quantity) from which fact a deeper injury was suspected. The patient remained in a state of unconsciousness for three days, but this gradually passed away, and he made a rapid and satisfactory recovery.

Case III.—J. C——, was thrown from his horse, receiving in the fall an injury of the thigh. I first saw him six weeks after receipt of the injury. Examination revealed a dislocation of the femur downwards on the foramen obturator. Reduction was effected by manipulation, the patient being under the influence of chloroform.

Case IV.—M. D——, negro girl, about thirteen years old, was brought to my office to receive treatment for a pistol wound in the front part of the head. I found the injury to be in the lower portion of the superciliary ridge of the left side, the ball having entered the skull. The patient complained of no pain, except in the back portion of the head, and was entirely conscious. Water dressing was applied, and she returned to her home, walking a distance of three hundred yards. On the following morning consciousness still remained, though unimpaired, and she sank rapidly into a comatose condition in the evening, death ensuing on the fourth day after receipt of the injury. At the autopsy it was discovered that the ball had penetrated the anterior cerebral portion of the brain, lodging in the left lateral ventricle. Extensive extravasation of blood had occurred over almost the entire left portion of the brain, producing the symptoms of compression.

Case V.—W. B——, aged sixteen years, on the twenty-fifth of December received a wound with a pistol ball in the left elbow joint. Fracture of the radius was produced and considerable injury to the articulation resulted; swelling and inflammation very extensive. By the continued use of cold applications and afterward gentle but persistent motion, the original use of the limb was regained, and the motion restored almost as free and varied as before the injury. Electricity was applied repeatedly during the treatment with good results.

Case VI.—M. L. G——, colored, wound of the face, inflicted by twenty or thirty bird shot. Most of these entered the mouth, knocking the teeth out, and producing considerable laceration of the tongue. When first seen, the patient was laboring under the resulting shock, and apparently more severely injured than the wounds would indicate. Next morning I found her better, though the power of deglutition and articulation was lost. She complained of inability to see, though no shot had wounded either eye, one only having entered in dangerous proximity, and that was found lodged under the skin. The wounds gradually healed, and

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health and strength returned, but the loss of sight remained. The right eye had undergone complete disorganization, while the left continued in a somewhat different condition. The pupil was dilated to its utmost capacity, but no response to light was given—cornea slightly opaque. By the opthalmoscope the lens was seen to be unaffected, but the deeper structures could not be brought into view. This condition continues at the present time, now about six months since the injury was received. The optic nerve is undoubtedly implicated in this obscure case, but there is still a doubt as to where the injury so fatal to the eye sight was inflicted. Whether it is reflex in its character, or whether some of the shot reached the brain through the nostril, or mouth and throat. None wounded the ball from its outer aspect, and no trace could be found of an entrance through the throat or nose.

Case VII.—B. H——, while attempting to couple two railroad coaches, was caught and crushed between them. He received three fractures of the clavicles, one of the right clavicle near the central portion, very oblique; two of the left, one transverse, the other oblique. A figure 8 bandage was applied and the patient ordered to bed. The transverse fracture united readily, as did also the oblique one of the left. The right one united, but considerable deformity resulted. The patient had pneumonia of the right lung, but made a good recovery. I might say that almost no bandage was worn during the treatment, for the pneumonia supervening it became necessary to remove the figure 8, and afterwards no apparatus was applied.

The following cases are reported by Dr. A A. Wilson:

J. C. B——, hernia humoralis from suppressed gonorrhœa. He was ordered a solution of tartaric antimonia in camphor water, one-eighth grain of the former to a teaspoonful of the latter every three hours; at the same time a solution of the iodide potassa, forty grains to the ounce was applied locally upon lint, the parts being contained in a suspensary bandage. The patient was relieved of all unpleasant symptoms in eight days. I mention this case chiefly to call attention to my treatment in such affections. viz.: The local application of iodide potassa, which I have always found to act promptly and happily.

M. A——, about the first of November last, had his hand terribly lacerated from a gun bursting in it. He was brought to my office the day subsequent to the injury. After examining the wound and finding it necessary to amputate, I proceeded to operate, removing the hand just above the wrist joint. Such had been the shock to the nervous system that no ligatures were required, scarcely any hæmorrhage occurring from the arteries. Reäction, however, was completed very soon; the patient continued to do well, and was discharged—cured at the end of three weeks.

E. W——, was severely injured by a fragment of an exploded anvil. His right arm was terribly lacerated, the skin being torn up

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from the wrist nearly to the elbow joint. There was also a serious injury in the right groin, produced probably by the same fragment. I saw him in about thirty minutes and found him suffering intensely and very much prostrated. Proceeding to dress the wound, I first drew down the skin on the fore-arm, retaining it in situ by adhesive straps and a roller bandage. Water dressing was applied to the injury in the groin. The next day I found the patient resting in ease, but the wound of the arm evidently indicating a disposition to slough, which result followed several days after, leaving a very ugly wound. This, however, granulated healthily, and the patient was discharged in about two months.

N. B——, was attacked with hœmorrhagic malarial fever about the middle of August last. He was very ill for about two weeks, and although he had taken no mercury, his gums became swollen, and every indication of mercurial salivation presented itself, except the peculiar odor. Some time after he became convalescent, it was discovered that the sub-maxillary bone was somewhat enlarged. This continued to increase, notwithstanding the gradual improvement in his general health, until one day I was informed by his mother that he had pulled out two or three of the teeth on the affected side. Upon examination it was discovered that the gum had sloughed, and the lower maxillary bone was exposed for about two inches. The general treatment was continued, leaving to nature the task of removing the diseased bone, which was done in a short time. When he presented himself at my office some time afterwards, with a pair of dressing forceps I removed the sequestrum. The gum healed very readily, and the patient is now entirely well, with very little disfiguration.

B. P——, about the 20th of February, was accidentally shot through the left hand, the second finger being torn off and the hand otherwise severely injured. The other three fingers were drawn together and a roller bandage applied to keep them in position, and cold applications ordered. The wound did well, and the patient recovered with only the loss of one finger.

The following cases are given in brief by Dr. U. R. Jones :

Amputation of the right leg above the knee, necessitated by compound comminuted fracture of the knee joint, and both bones of the leg. Fatal.

Amputation of the fore-arm, in the lower third, from compound comminuted fracture of the hand and wrist-joint, caused by the explosion of a musket. A flap was made from the palm of the hand, and a tough, firm stump resulted.

Quite a number of cases in minor surgery are also given by the reporter.

Dr. A. T. Pearsall reports five amputations, two of the leg, one of the arm, and two of the fingers, also a number of fractures and dislocations.

The following cases are reported by Dr. J. A. Fremon :

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A fibro-cartilaginous tumor, an adult male, white, age twenty-three years, healthy temperament, and sanguine. The tumor was about the size of a walnut, situated about one inch from the glans penis on the right side of the penis, and was the growth of four months and six days. Treatment: Extirpation with the knife, and simple dressing.

Two cases of protracted and aggravated epistaxis have been successfully treated by the exhibition of active cathartics and plugging the nose with powdered ice. Light diet and rest in the horizontal position.

Two cases of incised and one of punctured wounds—both were treated with pressure and light dressings; made rapid and perfect recovery.

Vulnus Sclopeticum, adult male, white, about thirty years old and healthy. Wound on the left side of the face, the ball entering about one inch forward and below the ear. The ball (ordinary Colt's pistol,) was not extracted, as it evidently passed behind the parotid gland. Recovery good,

Three cases of scalp wounds (incised). Treatment: satures, simple dressing, and pressure. Recovery rapid.

A case of recto-vesical fistula. An adult male, white, aged about twenty-seven years; has been the subject of calculi during childhood. He was operated by the lateral method for its relief at the age of ten years and about three months; has been troubled ever since with a discharge of urine per the rectum. Upon examination with an oval speculum, I found a small fistulous opening from the bladder into the rectum, about one inch from the external ring. Having no assistance, save a negro man of ordinary intelligence, I proceeded to operate as follows, no chloroform being used:

I introduced an ordinary sound of good size into the bladder, making with it firm pressure against its side and as near as possible to the fistulous track. Keeping the rectum well dilated with the speculum, I caught up the edge of the fistulous track with a tenaculum and clipped it away with fine curved scissors. I then, by means of a Physic's forceps and a small curved needle, passed a ligature through the parts and closed the opening. Notwithstanding the sound, an ordinary gum catheter was passed into the bladder, and being secured was allowed to remain. On the fifth day the catheter was removed, union having been effected. I removed the ligature on the seventh day. Recovery has been perfect.

Vulnus Sclopeticum, adult male, aged fifty years. A Derringer pistol ball had penetrated the palmer surface of the left hand forward, and between the first and second fingers, passing out about the middle of the back of the hand. Treatment: Simple dressing. Recovery good—has perfect use of the hand; no malformation present.

A case of fracture of the fourth true rib on the left side, together with an oblique fracture of the right clavicle near the sternum and

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luxation of the head of the same. This case was a negro man, aged twenty-seven years—healthy. Treatment: Replacing the bones in proper position, and retaining them with starched bandages, and requiring perfect rest in the horizontal position, the arms having been secured by passing adhesive strips around the chest. Recovery perfect and rapid.

A large number of cases of urethral strictures have been treated by dilatation, together with malformations and strictures of the os, as well as many other cases of minor importance, such as occur in the daily practice of every surgeon.

Quite a large number of surgical cases in addition to those above enumerated, occurred in the practice of members of the Montgomery Medical Society. But those physicians under whose treatment they came, deferred writing a detailed report of them until their professional duties crowded to such an extent upon them as to entirely prevent it.

Dr. James Douglass mentions (not in detail) a very interesting case of excision of the left elbow joint, in which several inches of the ulna were removed and the radius forcibly separated from its anchylosed attachment. Motion was instituted in the joint as soon as justifiable, and gradually applied daily during the treatment. Electricity was also employed with marked beneficial effect, and the result was an arm restored almost as useful and perfect in its motions as before the injury.

Also a beautiful exhibition of Nature's careful interest and patient influence in repairing the injuries of mankind. The instance was a burn involving the entire foot and extending about one-third the distance up the leg. When the patient was first seen by him, extensive suppuration and sloughing had occurred, which finally resulted in amputation of the foot and leg, leaving an excellent stump entirely symetrical in its proportions.

Dr. J. B. Gaston mentions two operations for strangulated hernia (inguinal). In one, the indications of mortification were so evident as to occasion serious apprehension of a successful termination. Both made good recoveries.

Dr. W. C. Jackson finds in his note book a case of incised wound of the chest, the knife penetrating and wounding the heart. The patient, notwithstanding the grave character of the injury, lived seven days.

Also a wound of the chest penetrating the diaphragm; patient dying on the fifth day. A post-mortem examination revealed a large portion of the abdominal viscera protruding into the cavity above through the wound in the diaphragm. This condition evidently existed some time prior to death.

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REPORT ON THE SURGERY OF WILCOX COUNTY.

By JOHN S. LYNCH, M. D., of Clifton.

I have to express my surprise and regret at the want of interest evinced by the members of our profession, in Wilcox county, in the proceedings of our Association and the cause of our noble science. I have addressed a communication to every member of the profession in the county with whose address I was acquainted, requesting them to report any cases of surgery which may have occurred in their practice, and assured them that, if deemed of sufficient interest to report to this body, they (the surgeons) should have due credit. To these communications, I regret to say, I have not received one single response. My report must, therefore, embrace only those cases which have occurred in my own practice.

This limited field of observation has, however, presented a most singular coincidence. During the thirteen years in which I have practiced in my present locality, I had seen not one case of fracture of the femur and not one dislocation. In the last year (1871) I have had to treat five fractures of the femur—one of both bones of the leg, two of the radius, and two dislocations of the radius at its humeral extremity. Of the five fractures of the femur, one only seems to me to possess sufficient interest to require any remark, unless I except the singular and, I should think, *very* unusual occurrence of a fracture of the thigh near its middle in a child thirteen months old, by falling out of a door about three and a half feet above the ground. I am able to give no clue to the means by which this fracture was caused, as no person saw the child fall, and there were no contusions which might throw any light upon the position in which it reached the earth. All of these cases, except one, were treated by the application of the long external splint extension by the foot and counter extension from the perineum, and generally with very good results. The younger the patient the better the result, and the youngest of all recovered without any shortening of the limb at all. The case excepted I deem of sufficient interest to report more minutely.

On the 20th of May, 1871, a steam boiler of the "portable" patent

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exploded under a very high steam pressure, completely demolishing the building in which it was placed, killing five men and scalding or otherwise injuring eight other persons. Of these J. W. M., aged thirty-two, was struck by some hard body upon the anterior surface of the right thigh, just below the middle, shattering the bone and reducing the muscles to a pulp. He also received a severe blow on the right side of the forehead, cutting the skin and muscles to the bone and causing a severe concussion of the brain; and a ragged cut, about an inch long and pretty deep, upon the right heel, just behind and a little below the external malleolus. At the site of the fracture there was only one small opening in the skin, from which was oozing a stream of dark blood. A probe introduced through this would almost sink by its own weight to the bone, and could be pushed by the slightest pressure to the depth of three or four inches in any downward direction.

When I saw him (about one hour after the accident) he had reacted, and was wildly questioning everybody that approached him about the catastrophe, and repeating the same question a dozen times almost in as many minutes. I gave him a grain of sulphate of morphia, which very soon completely quieted him; and then placed his thigh in a box, which for the want of anything better I filled with saw dust, and sent him home on a litter, with directions to keep the sawdust wet continually around the fracture, and his leg, from the knee downward, enveloped in hot flannel. I gave the last direction because I feared that the nerves and blood vessels had received so much injury that death of the limb might ensue from want of innervation and nutrition. The irrigation was kept up for three days, after which I removed the box and tried sand bags, for the purpose of preserving coaptation of the bones, and counter-extension by a weight suspended from a gaiter sewed around the ankle and foot, and elevating the foot of the bed. In twenty-four hours, however, the wound on the heel became gangrenous, probably from the pressure upon the veins of the ankle and foot, and it had to be abandoned. I then tried adhesive strips along the leg, but these invariably came off in a day or so, and took with them the cuticle, although I had diminished the traction upon them to the smallest possible amount. This resulted, I presume, from the feeble vitality of the limb, depending upon the diminished nutritive and innervative forces. I was then reduced to the necessity of abandoning all efforts at extension, and directed my attention solely to the keeping the bones as nearly coaptated as possible by means of sand bags, and to the healing of the wound in the foot. This last required nearly four weeks (it had assumed a very bad condition), and by this time the fractured bone had become surrounded by a very large and firm callous, and nothing was left for me to do but to abandon the case to nature as it was, or refracture the bone and set it. This last the patient positively refused to consent to, and I left him alone. The limb is one and three-quarter inches too

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short; but, with a very high heel to his shoe, he walks with a very slight limp.

In connection with this case, I desire to express my gratification with and praise of saw dust as a means of irrigating and refrigerating a fractured leg. I believe it possesses some advantages over any other substance I have yet seen tried. These are:—First, it retains moisture longer than anything else; second, its superior refrigerating power; third, its non-liability to fermentation and decomposition; and fourth, its cheapness and ready obtainment.

In the month of December last I saw two cases of dislocation of the head of radius outwards. Both occurred in young female children, learning to walk, and were caused by their attendants grasping them firmly by the wrist and trying to prevent them from falling after they had lost their balance and were swinging around towards them. Of course, the dislocation is easily reduced and may be deemed trivial. But I speak of these cases for the purpose of calling professional attention to the fact that it may be caused in the way I have pointed out, and to express my belief that the accident sometimes, if not frequently, is not recognized by practitioners in rural districts, where all sorts of surgical accidents are rare. The grounds for my belief are:—First, the great difficulty I experienced in my first case (a very fat little girl, eleven months old) in ascertaining the precise nature of the injury; and second, the fact that in the number of my female acquaintance I know of *two ladies* who suffered this accident in early childhood and were never relieved, the bones remaining permanently dislocated. When we take into consideration the natural disposition of ladies to conceal the deformity resulting from such an accident, I think we may safely assert the probability that the accident has very frequently escaped the attention or recognition both of parents and practitioners.

On the morning of the 29th of May, at one o'clock, I was called to Mary S——, a colored woman, aged about thirty years, small and frail, and in labor with her sixth child. Labor had begun eighteen hours before, under the care of a colored midwife. I found occupying the vagina and protruding from the vulva a firm, elastic tumor, about three inches in diameter. I suspected that the woman was not pregnant at all, but that her uterus was engaged in an effort to expel a uterine tumor. Auscultation, however, revealed the fact that she *was* pregnant, and other obvious symptoms that she was in labor. Finding the tumor very strongly compressed by the sphincter vagina, and meeting great difficulty in pushing my hand up by the side of it, I determined to try to push it back beyond the sphincter, where I thought I should have more room for it. This I succeeded in doing by a little effort, and then had not much difficulty in finding the os uteri, which was dilated to about the diamater of one inch, with the membranes intact. Careful exploration with my fingers proved the abnormal growth to be attached to the cervix two or three lines from the inner margin of the os, and strongly

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adherent to it everywhere, except at one spot on the right side. Here began a slit which extended to the bottom of the tumor. It would have represented then, if removed from its attachments, a quadlilateral mass, about four and a half or five inches long, nearly the same in width, and varying from three-quarters of an inch to one and one-quarter inches in thickness. Its free margins on the right side overlapped each other, and, when strongly compressed by the vaginal outlet seemed to be a solid mass.

Satisfied that the labor could never terminate successfuly without a partial or entire ablation of the growth; having no ecraseur for the purpose, and regarding the ligature out of the question, I determined to *cut* it out with such instruments as I had. I was encouraged to do this by the report of a very large fibroid removed by Dr. Wilson, of Baltimore, Md., with success; although there existed in his case no necessity for the haste which I was compelled to exert. I therefore selected a pair of strong curved scissors and ground off the points quite blunt. I then placed the woman on her back in the position for lithotomy, drew down the tumor and os to the utmost extent, and slipping two fingers up along the side of it to guide my scissors, by a succession of rapid cuts I succeeded in removing nearly the entire mass, only leaving a few ragged, uneven masses, half an inch or so in length, around the cervix. The hæmorrhage was fearful, but I succeeded in arresting it by applying persulphate of iron in substance. This I did by sprinkling it thickly on some cotton and pressing it firmly against the bleeding surface. Contrary to my expectation, the pains which had contiuned up to this time, now entirely ceased, and willing to allow both her and myself some repose, I gave her a quarter of a grain of sulphate of morphia, and she speedily fell into a comfortable sleep. This lasted about four hours, when she was awakened by the recurrence of labor pains, which now became very strong and regular, and in about one hour she was delivered of a living male child. Mother and child both did very well, and her convalescence did not differ materially from her former ones. The only after treatment consisted in syringing the vagina twice a day with a tepid solution of carbolic acid. Four months afterwards the woman moved beyond my observation; but when I examined her last, there was no indication of a return of the morbid growth. Whether or not a relapse might not occur under the genetic forces evolved by another conception, must be left to conjecture.

I have omitted to state that the tumor belonged to the class denominated fibro-cellular.

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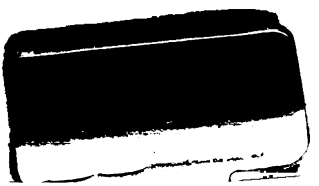

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